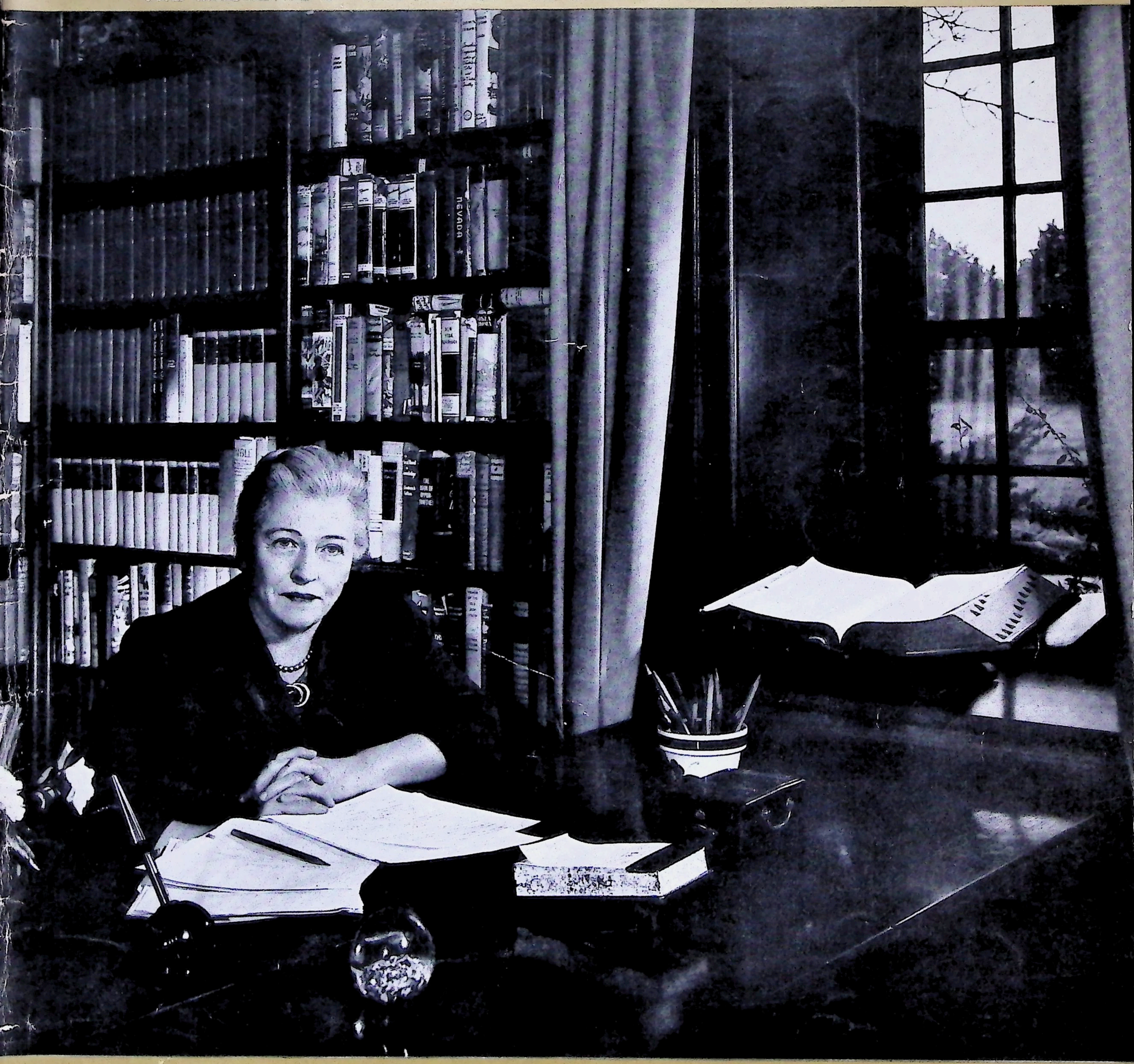
WISDOM

THE MAGAZINE OF KNOWLEDGE FOR LIFETIME LEARNING AND EDUCATION



AUTHOR PEARL S. BUCK

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ISSUE NO. 29

TREASURES OF COMPTON'S PICTURED ENCYCLOPEDIA

AND OTHER TIMELESS ARTICLES MAGNIFICENTLY ILLUSTRATED

LIMITED EDITION

PUBLISHED BY THE WISDOM SOCIETY

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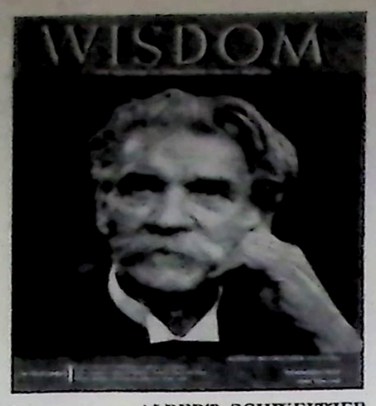

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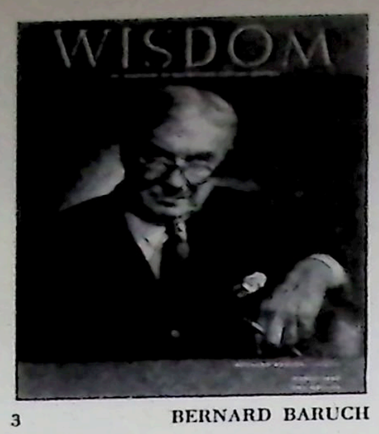

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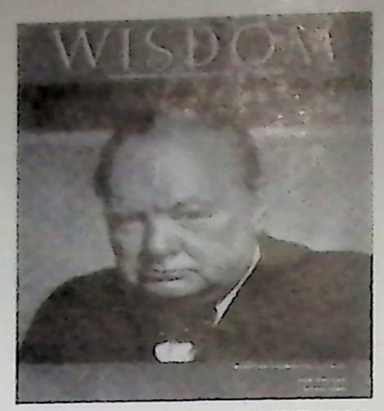

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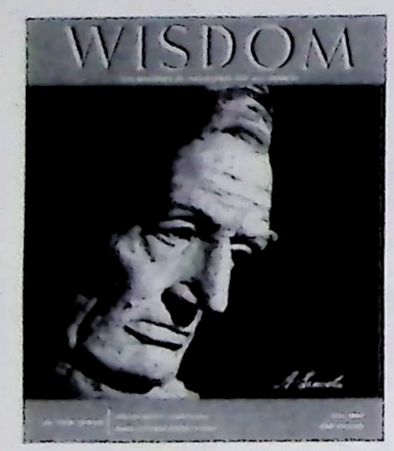

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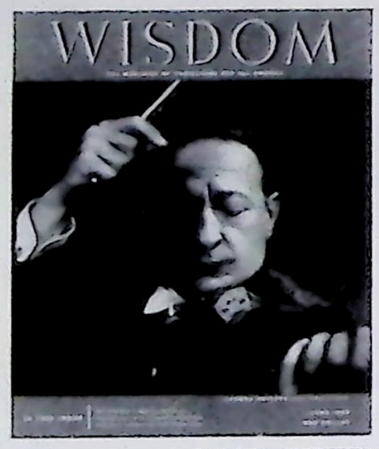

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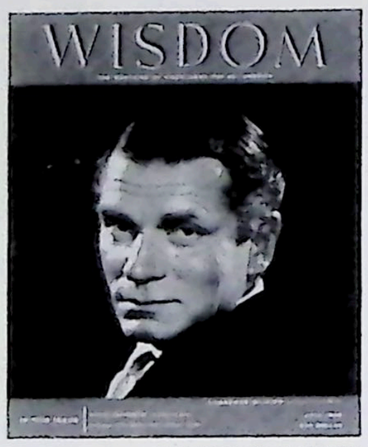

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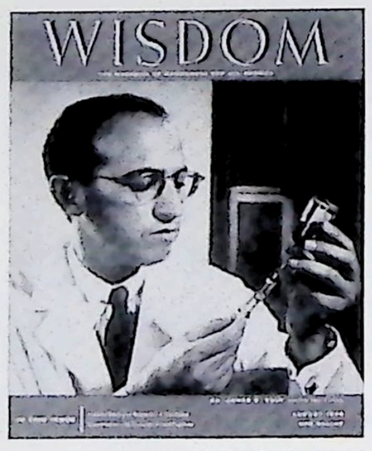

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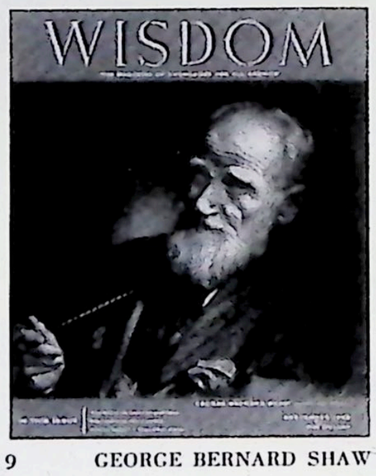

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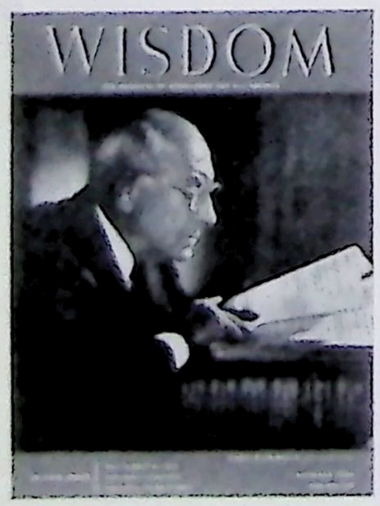

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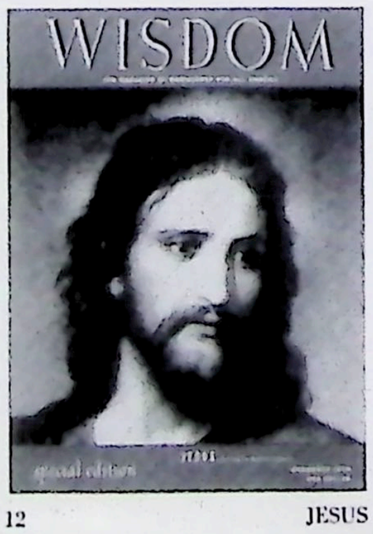

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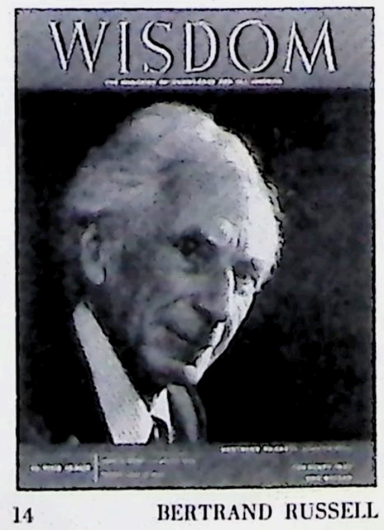

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THE MAGAZINE OF KNOWLEDGE FOR LIFETIME LEARNING AND EDUCATION

LEON GUTTERMAN
EDITOR AND PUBLISHER

Sincerely Mrs Harley J. Holt (1)

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Volume 3 - No. 29 May 1959

EXECUTIVE AND EDITORIAL OFFICES—8800 WILSHIRE BOULEVARD, BEVERLY HILLS, CALIFORNIA

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Wisdom is to the soul what health is to the body.
—LA ROCHEFOUCAULD

Wisdom is the right use of knowledge. —SPURGEON

True wisdom is to know what is best worth knowing, and to do what is best worth doing. —HUMPHREY

Make wisdom your provision for the journey from youth to old age, for it is a more certain support than all other possessions. —DIOGENES

"All that is necessary for the forces of evil and ignorance to win in this world is for enough good and intelligent people to do nothing"

A LETTER FROM THE PUBLISHER

LEON GUTTERMAN, EDITOR AND PUBLISHER

THE attitude we take to life, first in our emotional nature and then in our thinking life, determines the degree of real pleasure we find in living. In the heart and in the mind lie the springs of life, which wisdom clarifies and sweetens. At no time in the history of the world has the consciousness of wisdom been so needed as in this day and age. The masses and classes are enveloped in a fog, pitifully attempting to grope their way out. The eternal message of wisdom has been lost sight of—and yet there it stands like a beacon, flashing its gleam of hope.

Perhaps the greatest hazard which besets us today is the danger of losing faith in ourselves. Fears are irrational, but their consequences can be grave. The problems we face are human problems and therefore are capable of human solution. In the present day, fear finds little scope except in relation to other human beings, and fear itself is one of the main reasons why human beings are menacing to each other. It is a recognized maxim that the best defense is attack; consequently people are continually attacking each other because they expect to be attacked. Our problem is not to destroy antagonisms but to transcend and to transform them. It is possible to get below, rise above, or pass through them into a higher, nobler unity. The path to reconciliation lies within the temper of mind, the quality of spirit seen in God. The social value in any man's life depends upon spiritual quality; not on what he possesses, not upon what he knows, but upon what he is in the spirit of his life.

Our real defenses come from within. The literature of human experience is rich with the testimony of men and women who, when their outer defenses gave way, fell back on the resources of their inner lives and found them limitless. The soul knows how to reprovision itself from Eternal Resources when the need is pressing enough. Our age is coming to see that the profoundest possibilities in the attainment of strength go deeper than muscular development. A mind at peace and soul undistressed are vital to attainment of all-round strength.

The basis of war is men's proneness to fear and hatred. This is also the basis of economic disputes; for the love of money and power, which is at their root, is generally an embodiment of fear. Men desire to be in control because they are afraid that the control of others will be used unjustly to their detriment. A life of mere acquisition is a poor unsatisfying thing beside the rich and fuller interests of those who devote themselves to wisdom.

For all these illusions of the material world, wisdom has rather specific antidotes. Above all, it enables us to have a unified view of ourselves, our fellow beings, of God, and the universe. The antidote against modern materialism lies in the contemplating life, in man becoming a lover of wisdom—a philosopher. If the intellectual has any function in society, it is to preserve a cool and unbiased judgment in the face of all solicitations to materialism. Against the materialism of success, the philosopher has a kindly, indulgent smile. Materialism looks foolish rather than evil in the light of philosophy. Hatred and envy are diluted with laughter. Against the excesses of luxurious living, it teaches the simple life and, against the urban life, it teaches the love of nature. Against ruthless competition and struggle, it teaches the emptiness of the prize, the defeat of the conqueror, and the victory of the humiliated. Against the foolish desire for individual immortality, it teaches the immortality of the universe and of life itself.

Gradually I have come to a certain philosophy of life, guided always by the desire to discover some way in which men, with the characteristics which nature has given them, can live together in societies without devoting themselves to making each other miserable. I am convinced that the uneducated man is a lost man who betrays the things of the spirit by refusing to face and decide for himself the human problem. He will inevitably be stunted. And not alone will his life suffer, his talent decline, until he is incapable of giving life to anything he produces.

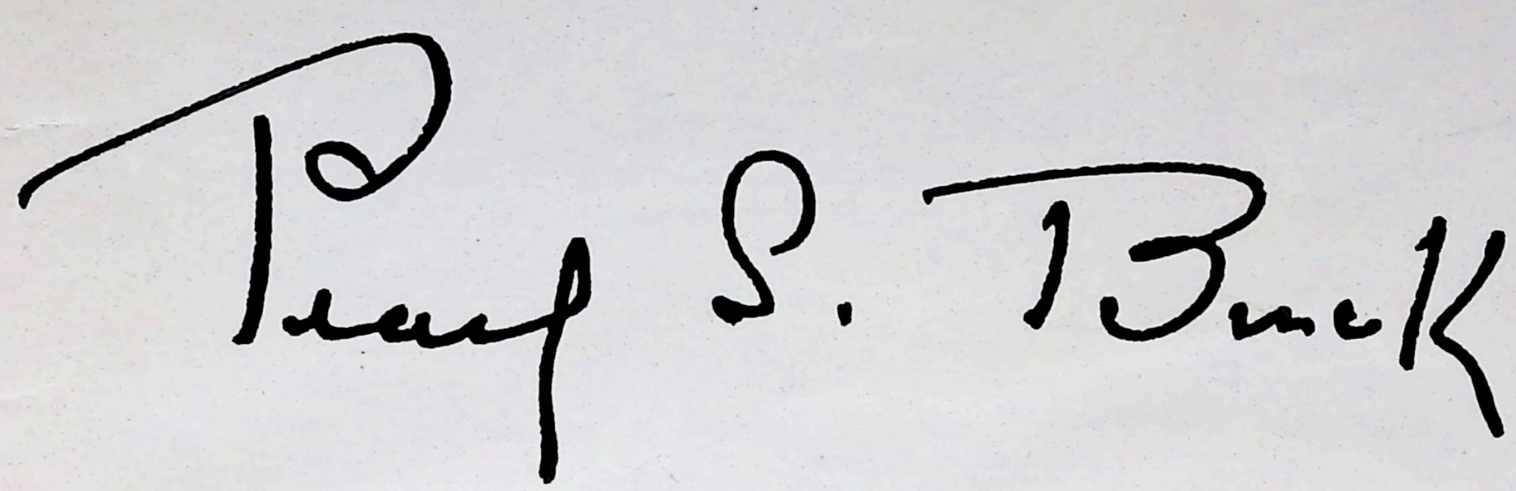
I consider it more important to teach man how to live, than to crush him under the weight of his duties. I believe that one of the primary tasks of education lies in making the individual enjoy society, and that society should subtly affect the individual with a sympathy for it, not a fear of it. The ideal man is one who has tried honestly to do his best to live a decent life and to see the truth according to his lights. The ideal man for me is merely a reasonable man, a man of character, willing to admit his mistakes and correct them. I do not ask for better creatures on this earth, for character is the world's greatest need, and good character is contagious. In proportion as we make ourselves stronger, braver, kinder, truer, purer, we are adding to the sum total of goodness in the world and so making it easier for others to do right.

Great wisdom consists in not demanding too much of human nature, and yet not altogether spoiling it by indulgence. One must try to do one's best, and at the same time, one must when rewarded by partial success or confronted by partial failure, say to himself, "I have done my best." That is about all the philosophy of living that one needs. The greatest contribution a human being can make to his day is the living of a life, however humble and obscure, which will introduce into the society some of the gifts God wishes most men to have.

Likewise, we must guard against believing that in a world where we constantly face the unknown all we need to do is to use our own power to cope with life. Life is strenuous, the world is exacting enormous portions of our energy. Many people are breaking, they are irritable, unhappy, fearful. With few exceptions this need not be, for it is not God's purpose that a man should be distressed. God's purpose for man is not tribulation but peace, and this is possible if we will remember what God is, what He can do, and what He actually does do for us. God has not lost control of His world. Notwithstanding the existence of suffering and disobedience to His will, His purposes are moving on to ultimate triumph. We can rest confidently, too, upon the assurance of God's presence in our midst. He has never promised that His people should have ease or smooth sailing in life. The heart that is faithful, therefore, can be untroubled in the midst of vicissitudes and "contrary winds." It is so because the heart that has stayed on God is able to rise above the circumstances of daily life. No outward storm can disturb the inward peace that He gives to those who trust. It is only the man or woman of faith who really lives. Doing what can't be done is the glory of living.

Leon Gutterman

Pearl S. Buck
God's Men
A Novel
PEARL S. BUCK
HOW IT HAPPENS
PEARL S. BUCK
Of MEN and WOMEN
Pearl S. Buck
The Hidden Flower
PEARL S. BUCK
PAVILION OF WOMEN
PEARL S. BUCK
THIS PROUD HEART
PEARL S. BUCK
What America Means to Me
THE CHINESE NOVEL
PEARL S. BUCK
The EXILE
Pearl S. Buck
FIGHTING ANGEL
PEARL S. BUCK
The MOTHER
PEARL S. BUCK
Pearl S. Buck
Peony
PEARL S. BUCK
AMERICAN ARGUMENT
PEARL S. BUCK
ortrait of a arriage
PEARL S. BUCK
American Unity and Asia
THE PATRIOT
PEARL S. BUCK
PEARL S. BUCK
OTHER GODS
PEARL S. BUCK
A HOUSE DIVIDED
PEARL S. BUCK
PEARL S. BUCK
TALK about RUSSIA
Pearl S. Buck
COME MY BELOV
PEARL S. BUCK
THE PROMISE
PEARL S. BUCK
Pearl S. Buck
IMPERIAL WOMAN
PEARL S. BUCK
THE SPIRIT AND THE FLESH
PEARL S. BUCK
HOUSE OF EARTH
PEARL S. BUCK
TELL the PEOP
PEARL S. BUCK
THE FIRST WIFE
PEARL S. BUCK
PEARL S. BUCK
Letter from Peking
A NOVEL
PEARL S. BUCK
FAR AND NEAR
PEARL S. BUCK
AMERICAN TRIPTYCH
THREE 'JOHN SEDGES' NOVELS
The Long Love
The Townsman
Voices in the House
PEARL S. BUCK
DRAGON SEED
PEARL S. BUCK
MY SEVERAL WORLDS
The Good Earth
PEARL S. BUCK
Pearl S. Buck
Carlos P. Romulo
FRIEND TO FRIEND



MY PHILOSOPHY FOR LIVING WISELY

It is no simple matter to pause in the midst of one's maturity, when life is in full function, to examine what are the principles which control that functioning. That there are principles one knows, of course. No ordered existence is possible without them, and only an ordered existence is productive—of happiness if of nothing else. But the mind is like the body—the less its possessor is aware of it the more easy is its working. To stop the mind, therefore, to examine why it chooses to do what it does, may be the more difficult when long ago that mind deliberately gave up asking why it exists and chose as deliberately to consider for the rest of its conscious time how it would exist.

For a philosophy of living is to the mind what the habit of health is to the body. Both should be taken for granted so long as life goes on happily and fully. Only when malady and unhappiness appear is there reason to examine the philosophy of body or mind. I doubt therefore that any healthy soul can put down the fundamentals of his health. He may make desultory remarks about it, such as giving the fragments of it which he calls his beliefs. But to say I believe in tolerance, or I believe in truth, beauty, goodness, or any other thing, is superficial statement after all, and such stated beliefs may have nothing to do with the actual philosophy of living. The philosophy of any one person is comprehended and expressed in the habit of his being, not in regard to any one thing but toward the whole of life.

This habit has its deepest shape in the primary attitude of the person toward life. We in the West with our traditions of rebellion tend to think that rebellion shows independence, aggressiveness, boldness. But we are wrong, or so I think. The weakest people are often the most rebellious, finding in universal discontent their excuse for no positive and resolute agreement with anything. There are specific times, to be sure, when rebellion is right and necessary. But I am not speaking of specific times, each of which must be judged when it comes. I am speaking of the primary attitude toward life. It is, it must be, acceptance, and this acceptance of life is the most aggressive act of the conscious human mind.

This mind, having made its acceptance, partakes then like everything else in the universe, in its microcosm, of the universe. The universe is in a perpetual motion, and so is the mind. And this motion is constantly between two poles, and the two poles are the two eternal forces of the universe, the positive force of life and the negative force of death. When I say this it may seem that I am arbitrarily assigning these qualities to life and death—life may

be negative and death may be positive, for all I know. I do not understand either one enough to ascribe qualities to them. All that I know is that in every thinking individual there are these two forces, life and death, and that they are opposing forces.

When I say life and death in this sense I realize I am putting into these two words more than they ordinarily carry, so that I risk misunderstanding. But there are no other two words to be used. So let me freight them, even if too heavily. By life I mean here that which moves onward, that which is active and vigorous within itself, that which exists and grows by itself and by everything which it touches, which responds positively to any stimulus. By death I mean that which is quiescent and recessive, that which subsides in itself, that which shrinks away from effort, by itself or by anything it touches, which responds negatively to any stimulus.

I do not mean in any sense that life is merely activity. Purposeless activity may be a phase of death. What I mean is more nearly expressed when I say life is active being and death is static being. Each has an energy, life the energy of action and death the energy of inertia. I realize again that these two words, energy and inertia, may seem contradictory. But they are not. Inertia is full of recessive energy. Anyone who has lived in the home with a person who chooses death rather than life as a philosophy, will know what I mean. Such a person merely by being inert, by never responding to any stimulus, exercises an energy sufficient to neutralize at least his equal weight of life. There is a tremendous energy in being simply static.

Human beings may then, among all their other classifications, be divided into these two fundamental types, those who choose life and those who choose death. And when an individual chooses between these two he chooses between two parts of himself.

For as soon as a human being is born, perhaps as soon as he is conceived, life and death begin their opposing work in him, and at the same moment he begins the long struggle of his existence, yielding now to one and then to the other. For he is not compounded wholly of the two. He is an entity and he has a will separate from either, or at least a wish separate from either which may develop into a will. But it wavers like a magnetic needle between the two opposing forces.

This dualism in the universe is everywhere recognized, not only in nature but in the minds and spirits of men. Every religion has recognized it in one form or another. But I am not interested in its religious or even in its philosophical expression. I am interested only in how the individual copes with it as he finds it in himself, whether he recognizes it or not, and whether he considers life worth having or not. That, it seems to me, is the primary question which assails each of us—is life worth having? If we decide it is, then the energy of action prevails in us and we fight death, and if it is not worth having, then the energy of inertia prevails and we never really become aware of life, because all of our being is pervaded with death's inertia.

I realize a point to be considered in answering this question of the worth of life. That is, one's answer to it may vary according to mood and circumstance. There are moods which fall upon us all which we cannot explain, or think we cannot explain, a vague illness of the spirit, an unreasoning sadness which has no seeming explanation in any circumstance. We are as rich to-day in all benefits as we were yesterday; neither accident nor poverty has befallen us. But yesterday we were happy with life and to-day we are sad with death. Yesterday we knew life was worth having and to-day we are not sure. We shrink away from it. And yet the external world is the same. It is our mood which has changed.

Of course the external world may or may not be the same. If it is, if the weather is as fine and all as good as it was yesterday, then the cause of inertia is within us. It is obvious to say that it may be caused by some such chemical contention as indigestion, and yet chemistry too is pervaded by this opposition of life and death. And when we have within us the inertia of obstinate chemical properties which refuse to co-operate, that also is the inertia of death and we are pervaded by it and all our being cries out that life is not good, and when we cry that we choose death.

If mood does not confuse us, then circumstance may. There are many people who say, "Certainly the life I now live is not worth having. I am too poor, too unhappy at home, too unsuccessful in achieving the success I crave, and therefore life is not worth having." That is, practically, they choose death since circumstances are unchangeable, or unless they can be changed.

Let me say quickly that of course this choice of death which I have put down so badly does not mean an actual choice of physical death—that is, suicide. No, in spite of all that one hears said to the contrary, the act of suicide requires a certain courage of conviction or despair of which few persons are capable. When I say death, I return to my own definition. I mean that state in which a person lives when he has ceased to develop any of his abilities or interests, when his existence has become a mere routine of minimum activity, physical or mental, and when so far as the world or himself is concerned, he might as well be dead. That he still continues to eat and sleep and do a little round has no importance. Actually he has already been absorbed into the inertia of death.

The variance of mood is valid, if transient. The person who chooses life will come to recognize mood more and more clearly after he has passed childhood and youth and will take pains to prevent moods by attention to chemistry, or at least he will learn to ascribe mood to its proper causes and not mistake atoms of obdurate matter within him for an obdurate universe without. He will learn to reject the inertia of death in this guise as clearly as he does in any other, though it is true that an individual of less intelligence may never recognize mood for what it is, and, failing in this recognition, will go on repeating the folly of its causes, and so give himself more and more, unwittingly, to the inertia of death.

But the variance of circumstance is much more serious than that of mood because by saying, "The life I now have is not worth living," and by receding from it in spirit while physically it goes on, many persons deprive themselves of any life at all, since their circumstances may not change. The truth is, one who chooses life rather than death will live in any circumstance, pouring life into every cranny, however cramped the space, shaping what is there rather than being shaped by it. I think of gardens I have seen in the Orient where in a few square yards between city walls there was created the illusion of a wide landscape. One could go there and forget the pressing walls and be surrounded with the large atmosphere of trees and mountain streams. For myself, I do not believe that circumstance has anything to do with whether life is worth having or not. In the first place, I have never seen anyone who does not in some important circumstance long to have his life changed. In the second place, those who measure the worth of life itself by the circumstances in which they must live it are already on the side of inertia.

For life is an elemental essence. It may be contained in a vessel of gold or a clay jar, but the essence within both is exactly the same stuff. Gold does not make it more valuable or clay change its quality. It is immutable. If a man says, "Life is so fine that I shall work for a fine vessel to contain it," then he is possessed by life. If he says, "I don't care what the vessel is, gold or clay, so long as it is brimming with the essence," then also he is possessed by life. But if he throws away his clay jar, the only one he has, merely because it is not gold, and so spills the essence within, then he is either a fool or he is already dead in his inertia. In other words, circumstances have nothing to do with the value of life itself. The person

who makes this confusion will never find any circumstance good enough for him. He will never value life and he will never be happy in any life. He will be nearest to any happiness possible to him when he has ceased the feeble struggle of his existence and is lost in the inertia which has had its octopus arms around him always.

I suppose there is no one who does not at some point in his philosophy make statements which can be proved by nothing except his own feeling or experience. I make my first one now. I believe that happiness for any individual depends on how clearly he can recognize this dualism in himself and how strongly he can determine that he will consciously choose life and not death. I simply say this, not knowing why I should think life is preferable to death. One of the greatest of human creeds in which millions of people seem to find comfort, is based on the entirely opposite belief, that death is to be sought and life is to be escaped. I do not say it is wrong. All I can say is that I do not believe it.

For myself, I choose life anyhow, anywhere. Whatever my mood or circumstance, I know I choose life. I have at certain times in my life been very poor indeed. There have been times when I surveyed my circumstances and had to acknowledge to myself frankly that every one of them was wrong and that I really had not one thing to make life worth having—and still it was worth having. I have seen too much death to be in the least afraid of it, and yet I do not want any kind of death. I want any kind of life as long as I can have it. Even though I were racked with pain I would find a few free moments between worth having. And I know pain itself may be positively lived.

Is life then merely an attitude of mind toward living? No, it is more than that. The attitude of mind comes as a result of something more primary. And this primary something is the state of being already alive—that is, possessed by the energy of action so that one's being is a positive force in itself, merely by its existence, whatever its circumstance. It means that the being goes out to meet anything and everything new in a spirit of open inquiry and interest, instead of in instant reaction against what is unknown or unaccustomed. It means putting aside circumstances that cannot be changed and living beyond them. It means roving imagination and daring thinking and ready laughter and quick appreciation and intense interests and wide observation. These things have nothing to do with circumstances. A woman tied to a washtub and a man to a machine can possess them all—if they will.

The will is the crux of it, the point at once weakest and strongest in any philosophy. No one knows anything about will, what it is, how to make it, or how it works, or why it works as it does. There is no such thing, of course, as a person without a will. When we say so-and-so has a weak will, we simply mean he wills to do something else—to keep on being drunk or lazy or a slattern. He wills inertia. It is not necessarily the easiest choice. He may suffer a great deal for his will in the loss of affection, public esteem, and such rewards of everyday life which are precious. He may suffer all the inward sorrow of feeling himself a failure and be very lonely. But still he wills the inertia of death because he prefers it.

For I believe, and here is my second statement, that people are what they want most to be. They may not have all they want to have—that is less important, anyway—but they are, in themselves, what they want to be. If they are lazy, they will to be lazy; if they are quarrelsome, they enjoy quarrelling, and will to quarrel; if they are despondent and recessive, this is the way they best enjoy being and so they will to be, and nothing can be done about it, unless the will can be changed.

Can the will be changed? It depends on the person who possesses it and on nothing else. If he has sufficient intelligence to see himself whole and is a creature of an order high enough, he may be able alone to change his own will and so change himself into what his new will chooses. But most of us are not so intelligent as this and we go through life without ever knowing ourselves at all. If we saw ourselves on the street, we would not recognize our own faces, and if we could be introduced to ourselves, we would say, "A complete stranger—I never saw him before." So how can a person change his will when he is unaware of himself?

There are various means whereby we do sometimes see ourselves suddenly and unexpectedly, and we receive a shock which has results of one kind or another. Some receive this light upon themselves through religion and they wish they were different, and wish may become will if it persists. Sometimes this light upon the self comes through love of another human creature, and wish stirs again to grow into will. Or time itself may do it, and experience may throw the light on self and the will learns to choose.

But still this presupposes the ability to see, for all of this light falls upon every human creature in one way or another, but not all can see what the light reveals. Some cannot see, for there is not intelligence enough to recognize what is seen, and some seeing, refuse to see, and in that act they choose again the inertia which is death. But some do see.

And why should some be willing to see and others refuse to see? Well, this is the question which men have answered in many ways. They have said inheritance dooms us or environment shapes us or God predestines us. The fatalist says there is no help for us—if we are born to life we will live alive, and if we are born to death, we will live dead. But all this is to deny freedom to the individual since time began.

And so here is my third statement. I believe we are born free—free of inheritance in that we can by our wills determine to be free of it, free of environment because no environment can shape forever one who will not be shaped. We are born free, in other words, of every sort of predestination. In each of us there is a little germ of individual being, compounded, it may be, of everything, inheritance, environment and all else, but the compound itself is new. It is forever unique. This *I* is never *You* or *He*. And this *I* is free, if I only know it and act upon that freedom.

Does this make a philosophy? Such as it is, it is all I have. When we are born, here is the world, composed of life and death. That life or death we must choose, for there is nothing else. We are free, except choose we must, for time compels the choice.

Does this choice persist beyond what we know of time? Who knows? To die is an end, perhaps, but who can tell the end of him who chooses to live? ♦

I doubt that the habitual indifference of our people can be changed in a decade or even in a generation. People do not change easily anywhere.

I am shocked at the number of our people, men and women, but especially men, who read slowly, word by word, and are never comfortable in reading and do not enjoy it, although the purpose of education should be to make reading as simple and easy as listening to a voice, for only when a person can really read will he surely continue his own education.

We have not lived long enough, perhaps, to know universally that the price of achievement, whatever the goal, is an absolute.

I realize how little I have bothered my head over myself in anything. There has always been something I had to do—or felt I had to do, and I've never stopped to think whether I could or not—I just did.

Pearl S. Buck

PEARL S. BUCK: AUTHOR

PULITZER PRIZE NOVELIST AND FIRST AMERICAN
WOMAN TO WIN THE NOBEL AWARD IN LITERATURE

A Biography

Pearl S. Buck by Karsh

THE Sydenstricker family migrated to America from Germany before the Revolutionary War. The Stulting family came from Holland somewhat later. Both left the old European countries to escape oppression and to seek religious freedom. They settled in the South, and the two families were united in 1880 when Absalom, the next to youngest of the seven Sydenstricker sons, married Caroline, the brilliant daughter of the Stultings. The young couple went as Presbyterian missionaries to the far interior of China where the exigencies of difficult years, spent in a region where there were few and often no white people except themselves, resulted in almost unbearable hardships, and the death from tropical diseases of all but three of their children.

After twelve years of missionary service they returned to America on a furlough, and Pearl Sydenstricker was born on June 26, 1892, in the old family mansion at Hillsboro, West Virginia. Taking the baby girl with them, the Sydenstrickers were soon on their way back to China, where Pearl grew up in a little house on a hill overlooking the Yangtze River and the crowded, historic city of Chinkiang. The family lived in the Chinese community, not in the compound set aside for foreigners. Pearl played with Chinese children, visited in their homes, and learned their customs, with the result, she writes, that "I had almost ceased to think of myself as different, if indeed I ever thought so, from the Chinese." Before she could speak English Pearl learned Chinese, although when it came time to read and write she studied English rather than the difficult Chinese characters.

The first story-telling influences in her life were her old Chinese nurse whom she begged to tell her tales of Buddhist and Taoist priests, of magic, dragons and tree spirits; her father's tales of his own adventures on frequent journeys into remote parts, some of which took him close to death; and her mother's stories of her own childhood in West Virginia.

She later wrote, "Here my mother taught me everything and made alive for me music and art and beauty. She taught me the beauty that lies in words and in what words will say, and from my earliest childhood helped me to see beauty everywhere and to write down what I saw and felt. Other American children have schools and church. I had my mother and missed nothing. When lessons were over I roamed the hills and valleys and talked with anyone and everyone and listened endlessly to conversations and witnessed, I am sure, many things never seen before by a white child. The beauty of the country and the feel of the Chinese people thus became a part of me that cannot be lost."

At the age of nine, Pearl suddenly became aware that she was a foreigner in China when her family was forced to flee for safety in the Boxer Rebellion. They came to the United States for the first time since her infancy, and remained until peace was restored and the family could return to their home in Chinkiang.

When she was fifteen, Pearl was sent to boarding school in Shanghai for her first formal schooling, and after two years returned home to the United States to continue her education at Randolph-Macon Woman's College in Lynchburg, Virginia. She became a leader in student activities, president of her class, wrote for the college paper, and in her senior year won two literary prizes, one of which was for the best short story.

On May 13, 1917 she was married to John Lossing Buck, a teacher of agriculture, and, like herself, a Presbyterian missionary. The Bucks were the only white people in the small North China town where they resided, and Pearl's memories of this region, the peasant people and their way of life, later became the basis of *The Good Earth*.

After a period of five years they moved to Nanking and Pearl, though busy with the care of her home, her children, and her parents, found time to teach English literature in the University of Nanking and later in the Southeastern University, from 1925 to 1927, and in Chung Yang University from 1928 to 1930.

While her time was occupied with her family and teaching she was already framing stories in her mind, and, after reading several disturbing stories in the *Atlantic Monthly* about the younger generation, she wrote an article about the young Chinese and sent it to distant Boston—the first she had ever sent to any magazine. The *Atlantic* lived up to its reputation as "the amateur's paradise" by promptly accepting the article which appeared in the January 1923 issue under the title *In China, Too*. In form and manner it showed the touch of the fiction writer, for though she was only thirty years old, Pearl cast herself in the part of an elderly woman for the purpose of contrast with her subject—the young people.

In 1925 the Bucks enrolled at Cornell University, her husband in the School of Agriculture and Pearl in the English Department where she received her Master's Degree in 1926. While she was at Cornell, a professor at the University advised her to send her first novel, *East Wind: West Wind*, to *Asia Magazine*. It was accepted and published in 1926 as *A Chinese Woman Speaks*.

After her return to China a New York publishing house wrote and offered to publish the story if she would lengthen it into a full-length novel. She decided that the story's frail structure would not stand alteration, and wrote the publishers that she could not with honesty enlarge the original, but offered to send two stories, the second written as a sequel. They declined this arrangement and on April 10, 1930, another publishing house, the John Day Company, published the two novels as a single book entitled *East Wind: West Wind*—her first book with a Chinese setting.

Earlier, however, she had written what was to have been her first novel and lost it to a Communist mob in 1927. Upon her return to China in the autumn of 1926, encouraged by her year at Cornell and the acceptance by *Asia Magazine* of her fiction, she had begun to write constantly and in earnest on a novel. She had by now also completed a biography of her mother, written after her death in 1921. In March, 1927, the Communist revolutionary soldiers entered Nanking, looting and killing foreigners, but by the narrow margin of ten minutes the Buck family escaped and hid for thirteen hours in a tiny hovel until English and American warships brought troops to rescue them. This is one of the incidents of which she has said, "I have had that strange and terrible experience of facing death because of my color."

She went to Japan to stay until the storm of revolution in China had blown over and, when she returned to Nanking a year later, it was to find her house filthy from having been used as a cholera base. Though the finished novel was scattered to the winds when her home was looted, she did find a manuscript which she had hidden away and which was actually the first book she had written. It was the biography of her mother, which, although it was originally intended only for the family, and not for publication, was eventually published in 1936 as her seventh rather than her first book under the title *The Exile*.

Although her articles and stories about Chinese life first appeared in United States magazines in 1923, it was not until 1931 that she reached a wide audience with the most effective portrayal of Chinese peasant life in American fiction, *The Good Earth*, a novel which sympathetically described the struggles of a Chinese peasant and his slave-wife to gain land and position. It won almost unanimous praise from critics. "Without effort or anger an alien civilization is quietly presented," observed the *Saturday Review of Literature*.

In 1932 it was awarded the Pulitzer Prize for the best novel by an American author. *The Good Earth* was translated into more than thirty languages, including several different versions of the Chinese, and was the basis of a play by Owen and Donald Davis from which the motion picture was later made, starring Paul Muni.

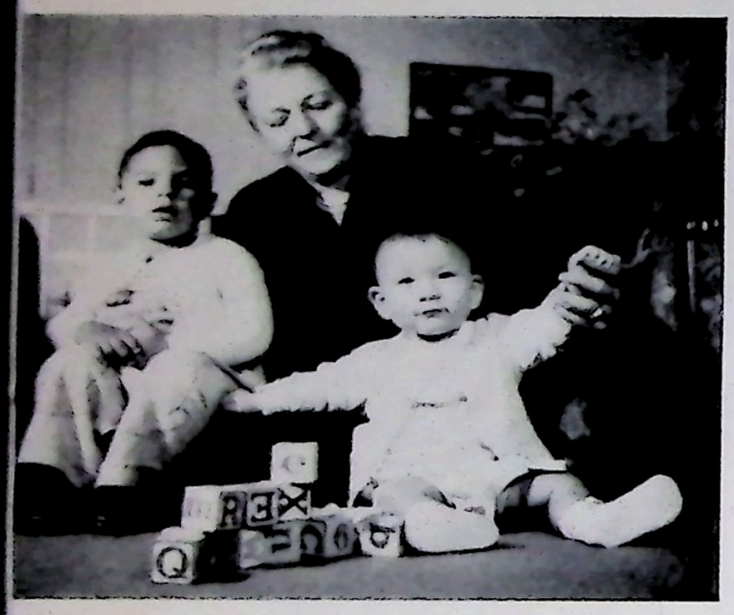
Other novels with a Chinese background followed. *Sons*, the sequel to *The Good Earth*, was published in the autumn of 1932. The concluding book in the saga of the family of Wang, *A House Divided*, appeared early in 1935, and at the same time the entire trilogy was brought within the covers of a single volume under the inclusive title, *House of Earth*. Meanwhile her separate novel, *The Mother*, was published in 1934.

Her largest single undertaking was the translation of China's most famous novel, *Shui Hu Chuan*, to which she gave the English title, *All Men Are Brothers*. This classic novel has one hundred and eight chief characters and as many more minor characters. The English text, consisting of about six hundred thousand words, represents an amount of research and sheer labor which would have discouraged any but a sincere and tireless scholar.

Yale University conferred upon Miss Buck the Honorary degree of Master of Arts in June 1933. She then returned to China where she resigned as a missionary before she came back to the United States a year later to become a permanent resident.

Pearl S. Buck was divorced from John Lossing Buck in 1935 and on June 11, 1935, married Richard J. Walsh, the president of the John Day Company, her publisher, and editor of *Asia Magazine*. The Walsh family, including five adopted children, reside on a farm in the remote countryside of Bucks County Pennsylvania.

In her following books she turned to biography. *The Exile* and *Fighting Angel*, both published in 1936, are the life stories of her own parents told in different volumes. Although her parents were married forty years, they lived such separate lives that what one did and thought does not in the least duplicate the story of the other. "These two finely wrought portraits," said the *New York Sun*, "are complementary and inseparable," and the *New York Times* said of *The Exile*, "It is one of the noblest epics of our day."



Babies and love are synonymous according to Pearl Buck. These are two of her Welcome House residents in playful mood.

In 1944 the two biographies were brought within the covers of a single volume under the title *The Spirit and the Flesh*.

The author's new acquaintance with her own country began to become evident in a succession of short stories, novelettes, and articles published in numerous American magazines. *This Proud Heart*, her first novel dealing wholly with American characters and with the American scene, was published in 1937.

Pearl S. Buck became the third American recipient of the Nobel Prize in Literature in 1938, the first American woman to be so honored. The award was made not for one book but for the entire collection of her work, which was reviewed at length in an address at the ceremonies in Stockholm by Per Hallstrom, secretary of the Swedish Academy. The citation for the award read, "For rich and genuine epic portrayals of Chinese peasant life, and for masterpieces of biography." It is no secret that these two biographies, *The Exile* and *Fighting Angel*, turned the scale in the Academy's final vote to choose this author for the highest honor given in the world of letters.

Journeying to Stockholm to receive the prize, Miss Buck delivered the Nobel Lecture before the Swedish Academy on December 11, 1938, for the first time bringing out some of her research into the history of the Chinese popular novel which had shaped her own efforts in writing.

Although she had planned a series of novels about Americans, the Japanese invasion of China strongly compelled her to once again turn her interest to the Orient. *The Patriot*, published in 1939, a swift-moving story which began with the revolution of 1926-27 and ended in the conflict between China and Japan, was built around the love story of a Chinese man and a Japanese woman.

In addition to her Yale degree, the honorary degree of Doctor of Letters was bestowed upon Miss Buck in June 1940 by the University of West Virginia. In 1942 she received the degree of Doctor of Letters from St. Lawrence University, later in the same year Howard University conferred upon her the degree of Doctor of Laws; in 1953 the degree of Doctor of Humane Letters was given to her by Lincoln University; in 1954 she received her second degree of Doctor of Humane Letters from the Woman's Medical College of Philadelphia. In 1950 Pearl S. Buck was elected a member of the American Academy of Arts and Letters, one of only two women in that body of fifty life members.

After Japan's attack on China in 1937, and throughout World War II, Miss Buck took a deep interest in the struggles of the Chinese people. Her own experience and knowledge of the area, coupled with her sympathetic understanding of the roots of the conflicts, make her books especially timely and valuable. Such novels as *Other Gods* (1941) and *Dragon Seed* (1942) among others, and works of non-fiction like *American Unity and Asia* (1942), *What America Means to Me* (1943), and *Tell the People* (1945), explore the larger issues of the ever-present struggles for freedom by oppressed peoples all over the world.

Looking even beyond China, she founded in 1941 the East and West Association, an organization she has described as "an educational experiment designed for friendship and mutual understanding between the peoples, especially of Asia and the United States." The Association brought Asian lecturers and entertainers to America and sponsored their performances in communities throughout the United States in an effort to demonstrate the Oriental ways of life. After ten years, Miss Buck suspended the activities of the Association not only for financial reasons, but because events of the day dimmed her hopes of establishing better relations between the two worlds.

Pearl S. Buck's great interest in children was inspired by her life in China where, as she told Edward R. Murrow on a television interview, early in 1956, "the children were considered so important as continuing life and keeping things going." She has written a number of books for children—among them *The Chinese Children Next Door* (1942), *The Water-Buffalo Children* (1943), *The Dragon Fish* (1944), and *One Bright Day* (1950).

Miss Buck, an active participant in work for retarded children, published a small book in 1950 entitled *The Child Who Never Grew*, the story of her own experience with her oldest daughter whose mental growth was retarded for reasons which have never been discovered. First written in May 1950 as an article for the *Ladies' Home Journal*, it was widely reprinted for the purpose of giving help to parents of other retarded children.

As a further expression of her love of children, she founded Welcome House in 1949, a non-profit organization dedicated to the care and adoption of American-born children of Asian ancestry. This agency, whose primary purpose is to find permanent homes and parents for these children of mixed Asian-American blood, has proved so successful in placing children in American homes that, as Miss Buck told Edward R. Murrow, "We have a long waiting list of parents now, and the great problem is that we don't have enough babies." Near her home are two houses where the children of Welcome House—Chinese-American, Japanese-American, Korean-American, and Indo-American—are cared for until they can be placed with adoptive parents. Friends join her in supporting this enterprise which holds the promise of rearing American-born children who, because of their heritage from both sides of the world, may in the future become human bridges between the East and West.

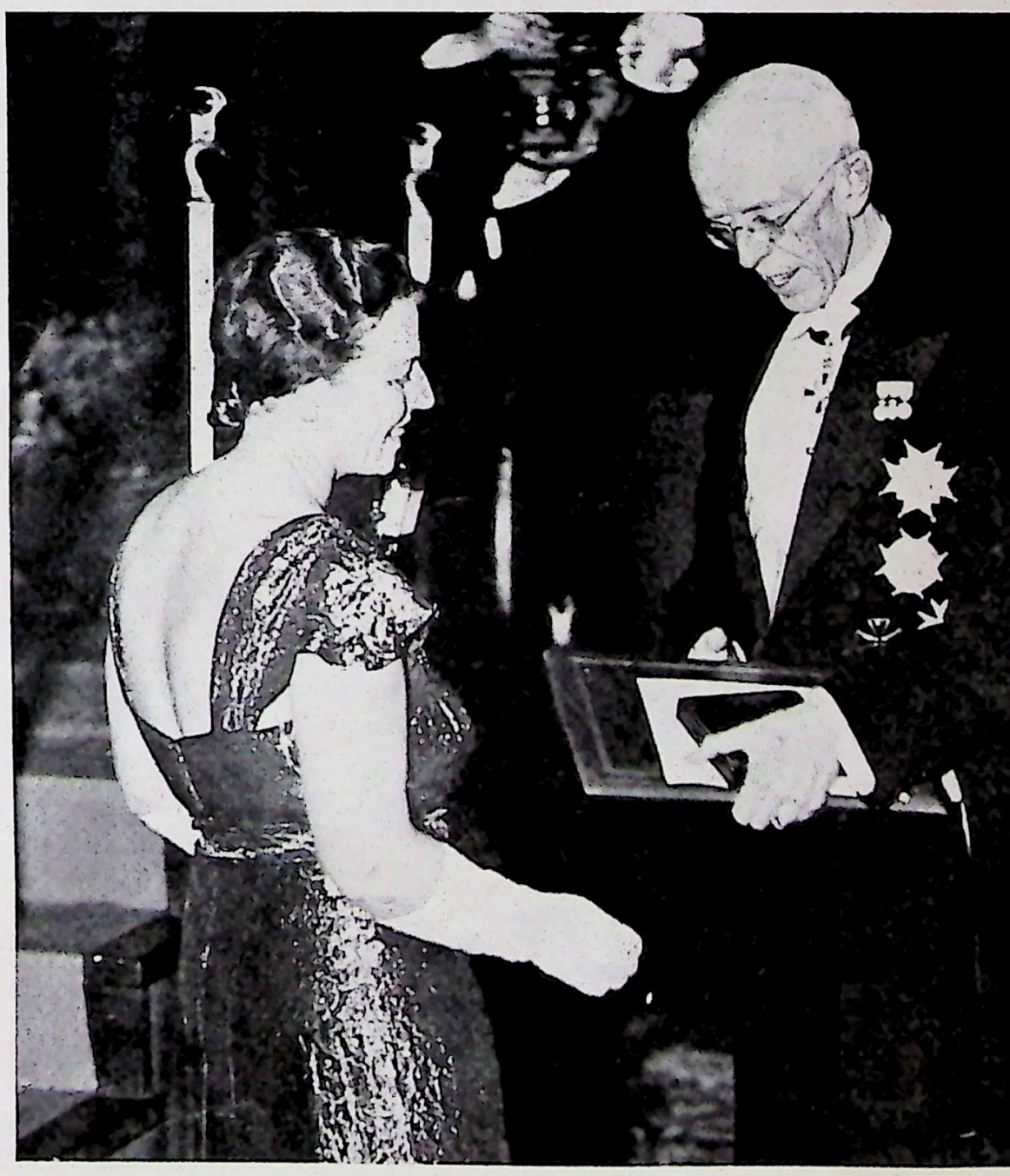
In her autobiography, *My Several Worlds*, published in 1954, Pearl S. Buck writes that as a result of her early education—with lessons from her American mother in the morning and from a Chinese tutor in the afternoon—she became "mentally bifocal." Her ability to look clearly at two cultures at once and to under-

Nobel Prize recipients pose with winner Pearl Buck. Left to right, front row: Karl Landsteiner, Irving Langmuir, Sigrid Unset, Miss Buck, Enrico Fermi. Rear, left to right: Victor F. Hess, Peter J. W. Debye, Harold C. Urey, Otto Myerhof.

stand and love them equally has enriched her work as a writer and as a leader in the cause of better East-West relations.

A fascination with atomic science and the problems of the scientists has gripped her increasingly since the end of World War II. She has spent many days at Oak Ridge, Los Alamos, and other atomic installations, talking with the men who worked on the atomic bomb, with the younger ones who have entered atomic work since the war, with their wives, with everyone who could help her understand their complex world. She has read everything on the subject from texts on atomic-physics to the books and articles of the scientists. So absorbed has she been in that subject that it has occupied her mind during all her waking hours and has shown itself directly or indirectly in almost everything she has written during this period, from short stories and articles to *A Desert Incident*, her first Broadway play. Her interest culminated with the successful publication of her latest book *Command The Morning*, a powerful novel of atomic scientists, which graphically illustrates the dedicated lives of men and women who hold the world's future in their hands, yet constantly question their own ability to cope with life. Here Miss Buck has turned to the most vital topic of our age—man's conquest of the atom—and, seeing it as both novelist and woman, has woven a suspenseful story of the human beings who brought it to pass.

Pearl S. Buck, a distinguished author whose many outstanding books of fiction and non-fiction show a keen understanding of people, and whose thorough knowledge of Chinese character exceptionally qualify her to make Oriental civilization understandable and significant to the people of the Western World, has often declared, "I would like to be known not for myself but for my books. The Chinese are very sensible about this. They take the artist as important only because of his art and are not interested in the personality of the artist." ♦



The Nobel Prize in Literature for 1938 was awarded to Pearl S. Buck by King Gustav V of Sweden.

Welcome House has been part of our community now for nearly ten years. The two little babies who inspired its conception have grown into sturdy boyhood, fulfilling their early promise. Following them have come many other babies and boys and girls. The story of Welcome House grows. Begun first as a place to provide good foster homes for American children of Asian or part-Asian ancestry considered "unadoptable" because of their unusual background, it soon reached its second stage, and became an adoption agency, approved by the State of Pennsylvania and chartered to receive such children from anywhere in the United States, and to place them as widely for adoption.

From the beginning we hoped that our example would lead other agencies to receive and place for adoption Asian-American children as they did all others under their care. This goal is rapidly being achieved. Agencies who, ten years ago, would not receive a child even of part-Asian background, are now placing them in adoptive families. Through our referral plan we often share in the process by giving to agencies who ask our help the names of adoptive families in their own regions who have applied to us.

from the Wisdom of PEARL S. BUCK

Most of my dreams have come true, I am a happy woman and happiness overflows into every relationship and activity of my life.

The worlds in which I have lived and grown have made me what must be called a controversial figure, as I have been told often enough, and this is because inescapably, by experience and nature, I see the other side of every human being. If he be good, then there is that other side, and if he be evil, there is again another side, and if the ability to comprehend the reasonableness of both seems confounding to those who are content with one dimension, to others as to me, it is an endless source of interest and amusement and opportunity for love and life. We have no enemies, we for whom the globe is home, for we hate no one, and where there is no hate, it is not possible to escape love.

I was a shy young girl, not used to young people of my own age and race, but I was drawn easily into human lives partly by my own curiosity but more, I think, by imagination which led me to understand feelings and thoughts and compelled me to conversation. I learned early that people are always ready to tell their opinions and troubles and problems and these drew my deepest and unfailing interest, wherever I was.

The result of years of defeat, although she never acknowledged subjection, was that my mother determined to give her daughters every possible advantage over their future husbands, and so she was charmed by the idea of educating me exactly as though I were a boy.

One thing I could not understand and do not yet and this is the apparent lack of interest or curiosity in Americans about other countries and peoples.

Today, after I have made my home for twenty years here in as pleasant a community as can be found anywhere, I have to report that still I have never found an everyday American in the least interested in any of the ways of life of Asia.

Looking back, I see my life in parts, each part fitting into the age in which I lived. If my childhood was different from that of other children of my time, and it was very different, then the deepest difference was that I always knew that I was a mere leaf in the gathering storm to come. Yet day by day I had plenty of love and kindness and I knew no personal unhappiness. There were no pressures on me, I had hours for myself and blessed freedom, for my parents were lenient and undemanding. And I had the fortune to be born with a nature easily diverted and amused, with a gift, if I had any gift, for enjoying what was around me, both landscape and people. I was healthy and full of good spirits and never idle or bored, a curious child plaguing everyone with questions sometimes too intimate and personal, and yet I will forgive myself to this extent: I had no interest in gossip, but only in story. I was entangled in every human story going on about me, and could and did spend hours listening to anyone who would talk to me, and there were always those ready or needing to talk. Of course I absorbed much useless information, and yet I wonder if any of it was really useless.

The older a people grows, the more it absorbs its own landscape and builds to it.

In those days of my early youth I learned the first axiom of human life, and it is that every event has had its cause, and nothing, not the least wind that blows, is accident or causeless. To understand what happens now one must find the cause, which may be very long ago in its beginning, but is surely there, and therefore a knowledge of history as detailed as possible is essential if we are to comprehend the present and be prepared for the future. Fate is not the blind superstition or helplessness that waits stupidly for what may happen. Fate is unalterable only in the sense that given a cause, a certain result must follow, but no cause is inevitable in itself; man can shape his world if he does not resign himself to ignorance.

The houses of our country are a revelation of our variety. No man knows what an American will construct when he is able to afford his own house. He pays no heed to history or landscape. On the contrary, he behaves as though he were Adam in some Eden of his own.

I am a creature instinctively domestic, but the age in which I am born, combined with whatever talents have made me a writer, have compelled me to live deeply, not only in home and family, but also in the lives of many peoples.

A happy childhood, marriage in its time, love and home and children, friends, and more than enough success for a creature singularly without ambition and born with no competitive sense whatever—this is the story of my secret years.

I read many warnings nowadays against too deep an attachment between parents and children, and I am sure that such dangers are overrated. There should be a deep attachment, heart should be tied to heart between parent and child, for unless the child learns how to love a parent profoundly, I believe that he will never learn how to love anyone else profoundly, and not knowing how to love means the loss of the meaning of life and its fulfillment.

The *New York Times* recently published the results of an American history test given to thousands of college freshmen throughout the United States. Among other amazing discoveries were these: that thirty percent of them did not know Woodrow Wilson was President during the First World War; that only six percent were able to name the first thirteen colonies—many even listed such states as Texas and Oregon; and a third of them did not know who was President during the Civil War. People everywhere do not concern themselves much beyond the common round of everyday, and this is the chief problem for a democratic government, whose success depends upon an informed and responsible citizenry.

Emptiness is the normal state of youth. No writer, I believe, should attempt a novel before he is thirty, and not then unless he has been hopelessly and helplessly involved in life. For the writer who goes out to find material for a novel, as a fisherman goes out to sea to fish, will certainly not write a good novel. Life has to be lived thoughtlessly, unconsciously, at full tilt and for no purpose except its own sake before it becomes, eventually, good material for a novel.

It is easier to receive injustice than to inflict it, for conscience is a fox gnawing at the vitals.

My own life has been spent in many places, but it has not lacked continuity or stability because everywhere I have made gardens and lived on farms and planted and harvested in the unchangeable turn of the seasons.

I despise shoddiness of handwork, believing it to be accompanied always by shoddiness of mind and soul.

While the President and his cabinet tell us that we may at any moment be annihilated, and while we realize the validity of the warning yet we all go on living and planning the details of our days exactly as though no threat hung over our heads. We know, we realize, we are not apathetic, but the monstrous potentiality of our times is too much for us. We cannot act as though the bomb might fall, or else we could not live at all.

I look now at my own children and reflect that I must neither love nor be loved too much if I want them to enjoy their freedom while I am alive and not anticipate it before my death. Yet there must be enough love, too, for growth.

Friends aplenty I had and have always had, but I learned long ago to meet them where they are. And I had no friends or relatives to whom I could speak about my writing, and it did not occur to me that this was strange or even a deprivation. I was long ago used to living in many mansions.

Though I can live anywhere, be either rich or poor with equal acceptance, I have to have a setting, and if there is not one, I make it.

I have often thought to myself that if I had not wanted to write books I would have liked to build houses and decorate them. But then I like to cook, too, and my children know that if I did not want to write books above all else, I would be a cook in a big family, perhaps in an orphanage, and make delicious dishes for everybody.

There are many persons I would like to have been—for example, a sculptor—had I not wanted to write books. I am fortunate that I had not to make the decision. At that I once wrote a novel about a woman sculptor, entitled *This Proud Heart*, and there, I suppose, in the curious way writers have, I fulfilled a dream.

My own interest has never been in politics but in the thoughts of men and women.

I am never better pleased than when I know a book of mine can be bought for fifty cents or, better still, for twenty-five. No people can be educated or even cultivated until books are cheap enough for everybody to buy.

The soul of man is born fresh in every child, and there is an age in every creature, unless he is debased too young, when for a time he sees clearly the difference between truth and falsehood, and hypocrisy infuriates him. He cannot forgive those who should be true and instead are liars. This fury, I believe, is the first cause for revolutions throughout history.

No great man appears as a solitary star, unrelated to what has gone before.

I had been reared with the Chinese sense of duty to my parents, and this helped me very much. One does not argue with one's older generation nor does one say words or behave in any way to make a parent unhappy.

Life is so pitifully short, the years with parents especially so short, that not one second should be misused.

How easily happiness can be made, and when it is made how wonderfully it works!

My life, flung so far around the world, has in a way been unified in my gardens.

Never say the gods are not kind!

Anything material can be destroyed. On the other hand, people are more than ever important and human relationships more valuable.

from the Wisdom of PEARL S. BUCK

Pearl S. Buck by Karsh

I have learned that any tree can be transplanted and live, if roots are not left long unsheltered in the drying air. Roots are meant to be in the earth, and quickly, quickly plant them there, pile the common soil around them, stamp it down and water it, and life goes on. But let a tree wait, unplanted too long, and it never roots. It makes a half-hearted attempt, a few leaves are put forth, and inexorably the top begins to die and after it the branches and then one spring there is no green. The laws of life are the same for every kingdom. My American home, then, has been the root place of my American life.

I had since childhood seen as everyday sights and events the life between man and woman, birth and death, starvation and feasting, disease and health, beggary and wealth, superstition, hypocrisy and religion. Superstitions have always interested me, especially, as the unconscious revelations of inner fears and hopes.

There was never a more generous or spontaneously unselfish people than the Americans, and this same spirit would work, I am sure, if it had the freedom and the knowledge, anywhere in the world. It is said abroad that we Americans are wonderful in an emergency but that we have no sustaining power and never carry through to the end of a problem. This is often true, for we are easily diverted and are swept by many winds of opinion. It is also true that we grow quickly impatient when we detect signs that those whom we help do not also help themselves.

A nation, like a child, cannot comprehend beyond the capacity of its mental age. To teach calculus to a child of six is absurd. One has to begin at the beginning, one has to wait for maturity and it cannot be hastened.

I wrote books. But books, even best sellers, reach only a small number of the total population of our country. Do they not reach the leading minds? Yes, but in a democracy such as ours the leading minds seldom achieve a place of permanent influence. And the men who sit in Congress or even in the White House are usually not our leading minds. They are not the thinkers. Still less have they time for reflection, or even for thoughtful travel.

In a democracy, I reason, it is the people who must be informed.

"Are your characters real people?" A hundred times and again I am asked that question and of course they are real people, created from the dust of memory and breathed upon by love. Yet not one of them lived outside my books exactly as they do within them.

Deep in the hearts of the Chinese people the ancient ways still hold. It cannot be otherwise, for people do not change in a day or a night from what they have been for centuries. And long ago Confucius decreed that the ways of peace are the honorable ways, that the superior man does not fight and kill, but governs himself first and then his household and at last his nation.

The noblest end is lost if the means are not worthy of it.

I suppose my habitual casualness about time is the result of having lived so long in a timeless country.

Now, after having seen years of public schools in America I sometimes question, however heretical that is, whether a compulsory school system is all that our fathers planned it to be. The task of the teacher in the United States is very hard. I see classrooms of lounging unwilling adolescents, and schoolrooms where noisy and troublesome children must be taught, whether they wish or not, the elements of learning. And most difficult of all, I see bricklayers and truck drivers and mechanics, good men but certainly ignorant, get more pay than the teachers themselves or than most brainworkers can command, and then I do not blame the American children for their confusion. Perhaps indeed it is true, as a certain young adolescent remarked to me the other day, that there is no use in going to college when one can make much more money than a college professor by stopping his education after high school and undertaking a career as a truck driver. In China the brainworker, the intellectual, always commanded the highest salaries, for there knowledge was valued, not only for its own sake, but because it is the source of wisdom in the conduct of life, and for this technical knowledge was not considered enough.

I do not know whether ignorance can be called a crime. If so, then many in this world are guilty, and I see them here in America, too, in high places.

I am not a perfectionist, I do not like floors that cannot be walked upon or books that cannot be left about, or untouchable tables and chairs. But a strong sense of design, and a love of ordered beauty are essentials of life not only for my family, as a duty, but for myself as a background. I cannot live anyhow. In one room, if it is all I have, I am compelled as instinctively as a bee to create order and produce a home. I cannot settle myself to writing books unless I have first made this background of life as complete as I can. The necessity is a curse and a blessing, separately and together, but so it is.

Before we can be magnanimous, before we can be people of good will, and so bring good will upon this earth, we must love life itself. And how love life when its changes confound and confuse us, and the old ways of living are gone? The verities, I say, remain unchanged. People are not different from what they ever were. The good are still the good, and evil is evil. However the standards are wrenched this way and that until we feel that life itself is out of equilibrium, we have only to wait and equilibrium is restored. Good emerges again as good, and evil is once more set apart. Storms and tempests may wreck a landscape but the wreckage is temporary. Sun and warmth prevail and life grows again and the landscape resumes its essential self. The verities of the earth are great verities, second only to the truth of goodness and the human conscience.

The proper conduct of human relationships is the most important lesson of life.

Great lessons are learned usually in simple and everyday ways.

I am an inveterate homemaker, it is at once my pleasure, my recreation, and my handicap. Were I a man, my books would have been written in leisure, protected by a wife and a secretary and various household officials. As it is, being a woman, my work has had to be done between bouts of homemaking.

The advance in our national thinking since the end of the Second World War should pacify and encourage even the most exacting and loving of critics. In spite of embarrassing mistakes and alarming missteps in the process of learning our world lessons, I see the American spirit reaching new levels of common sense and enlightenment. We are already beginning to give up our destructive prejudices in color, creed and nationality, and we are no longer so boastfully sure that we can lead the world. Indeed the idea of world leadership is becoming distasteful to us, and we are considering cooperation instead of leadership.

I have heard marriage argued from two contrary points of view, the one that it is wiser for opposites to marry, the other that there should be common interests, hobbies and vacations. My life has proved, for me, at least, the latter point of view. Observing the similar marriages of others, I add this caution—that cooperation and not competition must be the watchword.

We are all guilty some time or other of inflicting wounds upon the innocent!

For myself, I have no sense of mission or of doing any service. I write because it is my nature so to do, and I can write only what I know.

I want to be the best wife in the world, the best mother. I want to make a lot of lovely things in stone and bronze, perpetual things. I want to see the world and people. . . . There isn't anything I don't want to do.

I move about a country in my own half-lazy fashion, stopping where I like, enjoying everything and learning as much as possible.

I am comforted by life's stability, by earth's unchangeableness. What has seemed new and frightening assumes its place in the unfolding of knowledge. It is good to know our universe. What is new is only new to us.

Wherever I have been, whatever my work, I have always been first and foremost a woman. And deep in the heart of all women is the need to create a home--not only for herself, but for others.

What work is greater than that of the woman who creates and maintains that center of human life, the home? Into this home children are born. It is their world, the only world they know for the most important years of their lives, and as long as they live it will continue to be the most important influence on them. Seldom indeed do men and women rise above the atmosphere of their childhood homes. They may become rich and powerful, they may build houses very different from the one they first knew, but they carry within themselves always the atmosphere of their first home. If that home was a place of love and order and beauty, however simple, then they are tranquil and able to cope with life's problems. If it was not, the lack follows them all their lives. They may not know what is the matter with them, nor why they are eternally restless and seeking, but they know they live in uncertainty and inner confusion.

The influence of the homemaker reaches indeed far beyond the walls of her house. Her reach and importance as a stabilizer of civilization is so great that it is beyond her own comprehension. She creates the center where the world begins, the world and all its peoples. It is from her that they spring. As every human being, man and woman, emerges from her womb—and none can otherwise be born—so they emerge from the home she makes to receive them when they are born. True, man is her mate and cobuilder, but for some reason, perhaps divine, it is she who is the more responsible for the creation of life in all its forms. She has the most important job in the world, the most exciting opportunity.

I truly believe it is quite possible for the homemaker to combine career and home. Indeed, today's high cost of living sometimes compels wives to be wage-earners as well as homemakers. The combination is often difficult, especially during the years when children are small. I myself have been fortunate in being able to do my career work at home. The room where I write is in my house and the door is always open to the children. I keep no hours which cannot be interrupted by my family. Work is not always continuous as a result, but I have learned to break off in the midst of an important chapter if child or husband needs attention. I have always put my family first. I am lucky again because this has been no sacrifice.

Do I, who am a professional writer, believe that homemaking is the most important work in the world for a woman? Yes, I do, and not only for others but for herself. I believe that it is essential for a woman to be first a homemaker—whatever else she is. Insofar as she is a good homemaker, to that extent she will complete her own being. I know that it is necessary for me to feel that around me is my home, as beautiful as I can make it. Home is my earth, where my roots are and from which I draw spiritual sustenance. Security itself is based upon this inner content. The home is the center of our lives. As the home is—the individual home, where one woman is the matrix—so the world will be. We have need, we women, as we survey our present world, to ask why it is so troubled. If we are honest, let us search back into cause and cure. I shall not be surprised if that search leads us home.

Work for me is about as painless as work can be. I write rapidly--with great concentration and a consequent ease. Four hours a day—the hours from 9 to 1—five days a week. I cover eight to twelve pages of foolscap each morning—an average of about 2,500 words a day.

The best government in the world, the best religion, the best traditions of any people, depend upon the good or evil of the men and women who administer them.

from the Wisdom of PEARL S. BUCK

Pearl S. Buck by Karsh

American women always absorb my interest, I watch them everywhere I go, I ponder upon them, I observe the way they talk and think and behave. Years ago I wrote a little book called *Of Men and Women*. So changeful is the American scene that while the book remains true in principle—that is, as it pertains to the relationship between men and women in the United States—yet women have changed very much since I wrote it. The present generation of young women, the daughters of the mothers about whom I wrote, are not "gunpowder women" as I called their mothers then. They are almost Victorian in their desire to marry, to be supported by their husbands, to have children, to do nothing outside the home. In spite of the fact that these young women are compelled to do a great deal outside the home, they seldom enjoy it, and they want now above all else, it seems, to be given an excuse, a moral reason, why they should give up outside interests. They want big families to provide the reason, they proclaim boldly that they take jobs only because they must. In this generation a girl is not ashamed to say that she wants to marry, and she appraises every man she meets, married or not, as a possible husband for herself.

The pursuit of men by women is not healthy. It is a portent of totalitarianism. I do not like to see American girls in this generation give up their own individualities in order to attract men, for if men can be attracted by such behavior, then it is alarming. And it is alarming that girls stake so much on marriage so that if they do not marry they consider themselves failures, even though marriage should be the proper goal of men and women alike, an inevitable and desirable state, if society is in balance.

I am amazed at how little I learned in college. No one except myself was to blame for this, I am sure. College was an incident in my life and out of its main stream, an experience which remains incidental.

When I went back to visit my college I found a legend among the freshmen that I had once failed an English course. It was not true, but when I observed what a comfort it was to them to believe it, I had not the heart to spoil it. What did it matter whether I had failed it or not?

My life has been too crowded with travels and many people for me to put it all within the covers of one book, however, and indeed all my books have not been enough to tell the things I would like to tell.

I have no reason to worry about myself. I had always been able to do what I wanted to do, and this meant freedom from self—that is, freedom from fear of failure and also from conceit. I commend the mood, since it gives all one's time for observation and thought, work and enjoyment.

Personally I think this striving for charm and success and influence over people and all this self-help stuff is too silly for words. I think one has simply to be what one is. Giving up, sacrificing time to achieve, is, I think, nonsense. It will never succeed, anyway. The thing is to do what one enjoys doing—if it is a little of everything, it is just as worthy as a lot of one thing—the main thing being to be one's self and not impose an outside ambition on one's self and be wretched because one does not achieve it.

Somehow our society must make it right and possible for old people not to fear the young or be deserted by them, for the test of a civilization is in the way that it cares for its helpless members.

Love cannot be compelled, for in a woman sensitive and of quick intelligence, and with a dreaming heart, the flesh is not separate from mind and heart. The three are one, and cannot be divided from their whole. When this is understood, and perhaps only the sensitive and the warmhearted and the intelligent can understand it, then there is no cause for condemnation or forgiveness. And it is to be remembered that sometimes it is the man who is the sensitive and intelligent and warmhearted one, and then it is he who must escape or die.

For me a house without children cannot be a home. I do not know why the people who love children are so often prevented by accident from having them, but, God be thanked, there are many who have children and leave them, for one reason or another, and then others can take them for love's sake. My friend, Margaret Sanger, has served humanity well in beginning the great work of birth control, but for honesty I have always made it clear that my devotion is to her as a woman and not to her cause, and this is not that I do not believe her right, for of course she is when it comes to populations. In my case, however, it would be hypocritical to speak for the cause of birth control when other women, without such restraint, have given me wonderful children.

I am shocked to discover the way in which our homeless children are cared for, the heartlessness of our methods, the callousness of those to whom the children may be entrusted. I want to say even before this how cruel it is that there are so many homeless children. In the China in which I grew up there were no children born out of wedlock.

When at times I tend to grow impatient with my fellow Americans, and I am only impatient when it comes to large world affairs, at which it seems to me we are still rather stupid, I remember the infinite goodness of my fellow citizens, taken one by one, and the personal kindnesses of daily living, over the years.

We are a people still young and we know that we have not yet come to the fullness of our powers.

There are many curiosities of the American scene that I may write books about. My novels are not planned well ahead of the writing; they grow out of my preoccupations. I do no research for discovery, merely for immediate production. That is, I don't go digging facts from their contexts for possible use in future plans. But when I finally settle on a subject I do a lot of talking about it and questioning, and all my reading, every activity, centers on that one subject.

Freedom—it is today more than ever the most precious human possession.

English is a matchless language, and the alphabet, each letter with its own sounds, is the key, yet in this generation the teachers have thrown the key away.

Upon education one can write many books. Examinations, tests, grades, competition, these are all obstacles to true learning. Were I young again —how many things I would do if I were young again and in my own country! I would create a school where children could drink in learning as they drink in fresh milk. They drink because they are thirsty, and children are always thirsty for learning, but they do not know it. And in schools sources of learning are fouled with tensions, anxieties, competitive sports and the shame and fear of low marks, and it is no wonder that we are not a book-loving people. We have been made to hate books and therefore to scorn, with private regret mixed in, the educated man because he is an intellectual. Compulsory education? I doubt the wisdom of it, and certainly the use of the word compulsion is not wise. Education, yes, but not this sausage mill, this hopper, into which our children are all tossed at the age of six, and from which they emerge, too many of them, in dazed confusion, somewhere along the way, as rejects or as mass products.

I have never, I believe, willingly undertaken a job outside of my home and my work, which is writing novels. I have inherited no crusading blood and I dislike publicity with a fervor which may as well be called hatred, for that is what it is. When I have undertaken a task which has nothing to do with home or my writing, it has always been with reluctance and only after a period of desperate search for someone else, anyone else, to do it.

The writer suffers in profound ways from the injustices and the griefs of the times.

I learned early to understand that there is no such condition in human affairs as absolute truth. There is only truth as people see it, and truth, even in fact, may be kaleidoscopic in its variety.

The power and the attraction of our way of life, based upon the deep principles of the human heart, lie in the fact that what we believe in is what all mankind craves, the freedom of the individual within the limits of universal law. Had we been able to fulfill ourselves, we might have found world friendship and peace far easier to achieve. Instead we have slipped unwillingly into the place of the burden-bearers of Asia, responsible for old sins that we never committed.

The greatest need in the world today is for people of sweet disposition, good character and harmonious nature.

I wrote *The Good Earth* in three months, typing the manuscript twice myself in that time. When it was finished I felt very doubtful indeed of its value.

My mind could not rest after I had finished *The Good Earth* and almost immediately I began to write another novel, *The Mother*, in which I portrayed the life of a Chinese peasant woman, but more than that, I hoped, it was the life of such a woman anywhere, who has been given no fulfillment except her own experience and understanding. Everywhere in the world there are such women and by the million.

It would not be fair of me if I did not record here that, when I had finished *The Mother*, I was far from pleased with it and I threw it in the wastebasket beside my desk. There it lay and it was only chance that it was not thrown away permanently. The houseboy happened to be away for a few days and the baskets were not emptied, since one servant did not presume to do the work of another lest it appear he envied him the job, and before the houseboy returned, I had retrieved my manuscript to examine it again and see whether I was wrong. Eventually it was a book, although I put it away for several years before I offered it doubtfully to my publishers.

Our young are strangely insecure. I ascribe this, primarily, after much thought and observation, to the general lovelessness of their life as children. In old countries, France, for example, in Europe, and anywhere in Asia, the child is so well loved that he can survive any disaster of his life in childhood, except death itself, because he is always with his family, and in later life because he has had his foundations laid in love.

Our Americans are not harsh to their children so much as indifferent and withdrawn, or anxious and critical. The parent world is too far separated from the childhood world, there are too many absolutes conflicting one against the other, so that our children grow up uncertain of their own worth as human beings. I am amazed when sometimes an unperceptive foreigner tells me that Americans are proud. Bombastic sometimes, yes, and boastful, but this is because we are not proud, but secretly self-distrustful and doubtful of what we do and say and think. A man who knows his own worth does not boast, is not self-seeking, will not domineer or force his own opinion upon others, respects his fellow man because he respects first himself. When we Americans fail in these virtues it is because somewhere we have lost our faith in ourselves, and this happens, I believe, in early childhood. How I wince when I see a mother, or a father, but more often a mother, because American men do not usually take their proper share of responsibility for their children, jerk a child's arm upon the street, slap the little creature, shout at him, walk too fast for small legs! I long to have the courage to speak, to tell the mother to be careful what she does, because it is by such cruelty that she will lose her child's heart. I have never dared to speak because I discover that to the American parent his child is a private possession, to deal with as he likes, and this is not as it was in China, where the child belonged to all the generations, and was always defended from parental injustice.

Our children, I say, are not treated with sufficient respect as human beings, and yet from the moment they are born they have this right to respect. We keep them children far too long, their world separate from the real world of life.

Americans learn quickly and well from experience, if not from preaching or even from books. Our own men, coming home from abroad as soldiers and diplomats, are proving to us that we can like other peoples—not all of them, but enough of every people so that we do not dislike all of any one kind. Given half a human chance, we like rather than dislike, but we are not sentimental about it.

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Sinclair Lewis had said to me, "Don't let anyone minimize for you the receiving of the Nobel Prize. It is a tremendous event, the greatest of a writer's life. Enjoy every moment of it, for it will be your finest memory."

I went to Stockholm with this advice, and it was good and true. I have had much happiness in my life and splendid events have come my way, but, aside from the continuing joys of home, the four days in Stockholm in the year 1938 remain my most perfect single recollection. The award came at a time when I needed it most. I had met that difficult period of a writer's life, when the reaction, which the American public invariably bestows upon anyone whom it has discovered and praised, had set in. Since the praise is always too much and too indiscriminate the opposing criticism and contempt are also too much and too indiscriminate. My head had not been turned by the praise and its excess had only amused and touched me, but the rudeness of unjust criticism, a sort of stone-throwing which became merely imitative once it had begun, did temporarily destroy my confidence. The warmth of the Swedish people, combined with their dignity and their calm, restored my soul. It was good to be received, not with adulation, but with respect and affection. I cherish that memory.

Where the spirit fails there is always weariness. And the spirit fails, perhaps, because we are still tied emotionally to yesterday, so that today seems ephemeral and unreal. We have not put down deep roots—and we dare not, for tomorrow presses so hard upon this still unrealized today that roots will have to be pulled up again and yet again. Are there no verities left to us? Every thinking mind must ask the question. How shall we translate in terms of today's life the meanings which yesterday seemed eternal? There are verities, and they are still eternal. In spite of every change and through every change that is now taking place and will take place in the unimaginable future, the verities remain unchanged.

Today, more than ever, with all the zest of their forefathers, the people search for good men and women to sit in the seats of government.

It is a wonderful fact that while the peoples of the earth differ much in the ways in which they live and even in the ways in which they think, yet upon what is good and evil they all agree. A good man in any country is the same man. He is the honest man, the man of honor, the man who thinks of others when he thinks of himself, the man whom people can trust for magnanimity as well as for justice. This is eternal verity.

From the first grade on, the child should be taught his duties as a citizen, and given his voice in municipal matters and then in state and nation. But here I begin to ride a hobby and I dismount.

I believe that prejudice in the American, as a matter of fact, is very shallow, and could easily be cast away altogether. I am the more inclined to this belief when I see the generous praise and respect given to Negroes who prove themselves great artists and great human beings. When Negroes ask me, "What would you do if you were a Negro?" I always reply, "I would devote myself to the discovery of the most gifted and most intelligent children among my race and I would collect money somehow to educate them to their fullest development, and with responsibility for others."

Dignity is a wonderful weapon when it is consistently used, and if never lost, it always wins.

In spite of our incredible differences in thinking, our seemingly irreconcilable conflicts in action, we have a unity of spirit, the American spirit. It is difficult to define, and yet I feel it steadfast, the deepening and strengthening expression of a people still in growth, still in the process of welding a new nation out of human material, from everywhere in the world. Whatever were the motives of our ancestors in leaving old countries to come to this continent, and the reasons were as various as themselves, good and bad, we who are their descendants are creating something unique in our own selves, a nature native to our soil, a character peculiarly American.

Our contribution to the solutions of the world's problems will come only from the working of the American spirit. Our approach will be practical, though sometimes impatient; optimistic, though humorously rueful; energetic, though occasionally reluctant. In short, if I am sometimes critical of my own people, it is in excess of love, for I perceive so clearly the needs of humanity and our own amazing ability to aid in fulfilling them, that I grow restless with the delays preventing the realization of ourselves and of what we can do, at home and abroad, to create a sensible and pleasant world.

To shut one's door while others suffer, to care only for one's own, disclaiming responsibility for humanity, is to destroy all good impulse and to build up a deadly selfishness which will be a boomerang in its effect upon ourselves.

I suppose if I've had a rule of life—which I never consciously have had—it has been to decide what should be done, and having decided get it done somehow.

Nothing is done that is not begun.

The result of having few childish books and therefore of being compelled at an early age to read adult novels was that I decided well before I was ten to be a novelist.

Somehow I grew up feeling that the writing of novels was a lesser work than it is. Certainly I never felt that novels were literature and I was secretly ashamed of my continued interest in reading them. When *The Good Earth* took on a life of its own, no one was more astonished than I, and I was even apologetic that my first appearance, so to speak, in the world of literature, should be with a novel.

All this may explain my own small estimate of my powers, so that one day in the autumn of the year 1938, when I heard that I had just been awarded the Nobel Prize in Literature for that year, I did not believe it, nor could I believe it until a telephone call to Stockholm confirmed it. My feelings then were still very confused. I could not understand why it should be given to me and I remember that I exclaimed, "Oh, I wish that it could have been given to Theodore Dreiser instead!"

I did indeed so wish, for I admired Dreiser greatly as a writer. He was, to my mind, far more than a mere novelist. He had in his deep, ponderous, gigantic fashion got hold of something profoundly American, and if before twenty I read Charles Dickens, after twenty I read Dreiser and after Dreiser, Sinclair Lewis, and of the two of them I felt Lewis the more brilliant but I knew Dreiser would be the more nearly permanent. And he was getting old, whereas I was still young, young enough to wait for future rewards.

If I had doubts about myself, they were doubled and tripled by my fellow writers who were men. It is only honest to say that I am sure the blast from my fellow writers fell upon me with a severity they had scarcely intended. I had for years worked so entirely alone in my writing, in such remote places in Asia, among people who could not understand my yearning to associate with others, especially Americans, who were writers and with whom I could communicate as kindred minds, that I was oversensitive to this American criticism which did indeed fall upon me too soon. And it must be confessed that I have never quite recovered, though years have passed, so that I have been too diffident, ever since, to mingle much with American writers or, perhaps, to undertake my proper responsibilities with them. To go among them even now revives painful memories of that autumn in 1938, when I was still new in my own country, still eager and hopeful and, as I can see now, absurdly worshipful toward my elders in the golden field of American letters.

I believe only in life, tragic, gay, glorious, incomprehensible life. I believe in human beings and in the good and evil mingled in us all. I believe in art, that it is to be kept to its one holy use, which is to portray faithfully, as only the purest art can, life itself and life only.

I don't believe in an ivory tower. I don't believe in a withdrawal from people. . . . Yet one shouldn't be at the mercy of life but should take time and space to be one's self and live one's own inward life, full of what enriches. I can do all sorts of things on the fringe of my life, but I must have a quiet center. . . . After you have suffered, seen death, had loss, you aren't afraid any more. Those fears get out of your way. I don't believe in suffering for its own sake. I think you learn as much from happiness as from suffering. But if you live you can't escape suffering; you find that you get through and it opens a door.

I know what I want and go after it, and don't count the cost. If you go counting costs you never do anything or get anywhere, I do believe.

I know my fellow Americans for what they are, a generous, impulsive, emotional people, unstable, not only from nature, but also from environment. This environment is historical as well as present. We have changed so quickly from a pioneer and rural culture to industrialism and its consequent urbanism that we are still divided between the two major types of civilization. Our political system, too, abetted and even partly caused the instability of our life. The complete overturn every four years in our central government, or at least the effort to make the overturn, the intervening upset of local politics, the shortness of the term of office, not only for major officials, but for the lesser ones as well, make impossible the development of enduring policies and principles. A sense of haste and hurry pervades our daily life, bred of the necessity for action before the change again, and this permeates our thinking. The safety valves of English democratic procedures, whereby a government remains until the people overthrow it, are not ours. Good or bad, certain men can count upon remaining in office for a certain number of years, to do good or evil or nothing at all. Yet however beneficial the good, it may be impermanent, for in four years or eight, seldom more, the whole regime is upset or can be upset. To this, more than to any other single cause, I began to ascribe the superficiality of American life and thought. We live from day to day, unable to plan for long years ahead, lest a new government bring about far-reaching changes. I cannot sufficiently stress the disastrous effect upon the life of our people of continual political uncertainty, especially when in addition to it we have the heavy task of amalgamating a population which has come from so many varying parts of the world, and so quickly that there has not been time to create the real union to be found not in political organization so much as in the deep human roots of tradition and custom developing through a long common life together.

The brain is sometimes, I think, like a separate entity inside one's being. It has to be coaxed and coerced at times to come into harmony with what one wills for it. . . . It really is a matter of training.

Words are made, to my thinking, to convey, and when nothing is conveyed, what remains except empty words?

A writer must just write as he pleases since people will always be divided. The only safe thing is to pay no attention whatever and write as and what one pleases.

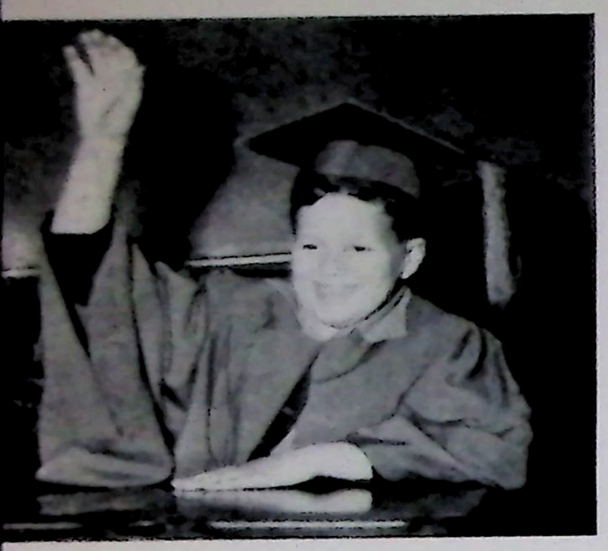
My great fault is that I can never give myself entirely to any one thing. I always seem to be concerned in several interests and I just have to be that way. I could not possibly choose one. The trouble is that I always have too many things I am interested in and live too many lives.

I can't think of anything I lack except more years of life ahead. But life has been life wherever it was and I have tried to do the best I could with whatever happened to me.

I think only one thing; believe in life! Life is glorious. I would not have missed any of it. I shall be in love with life to the very end. Bring zest to it and bring humor and purity of purpose and you will find that, pain, or pleasure, life is *good*.

I find so much that interests me, that seems exciting and strange and revealing, that I'll keep right on turning out books, one after another. I've enough to work on for years. And no two of the books will be alike.

In this mood of faith and hope my work goes on. A ream of fresh paper lies on my desk waiting for the next book, I am a writer and I take up my pen to write.

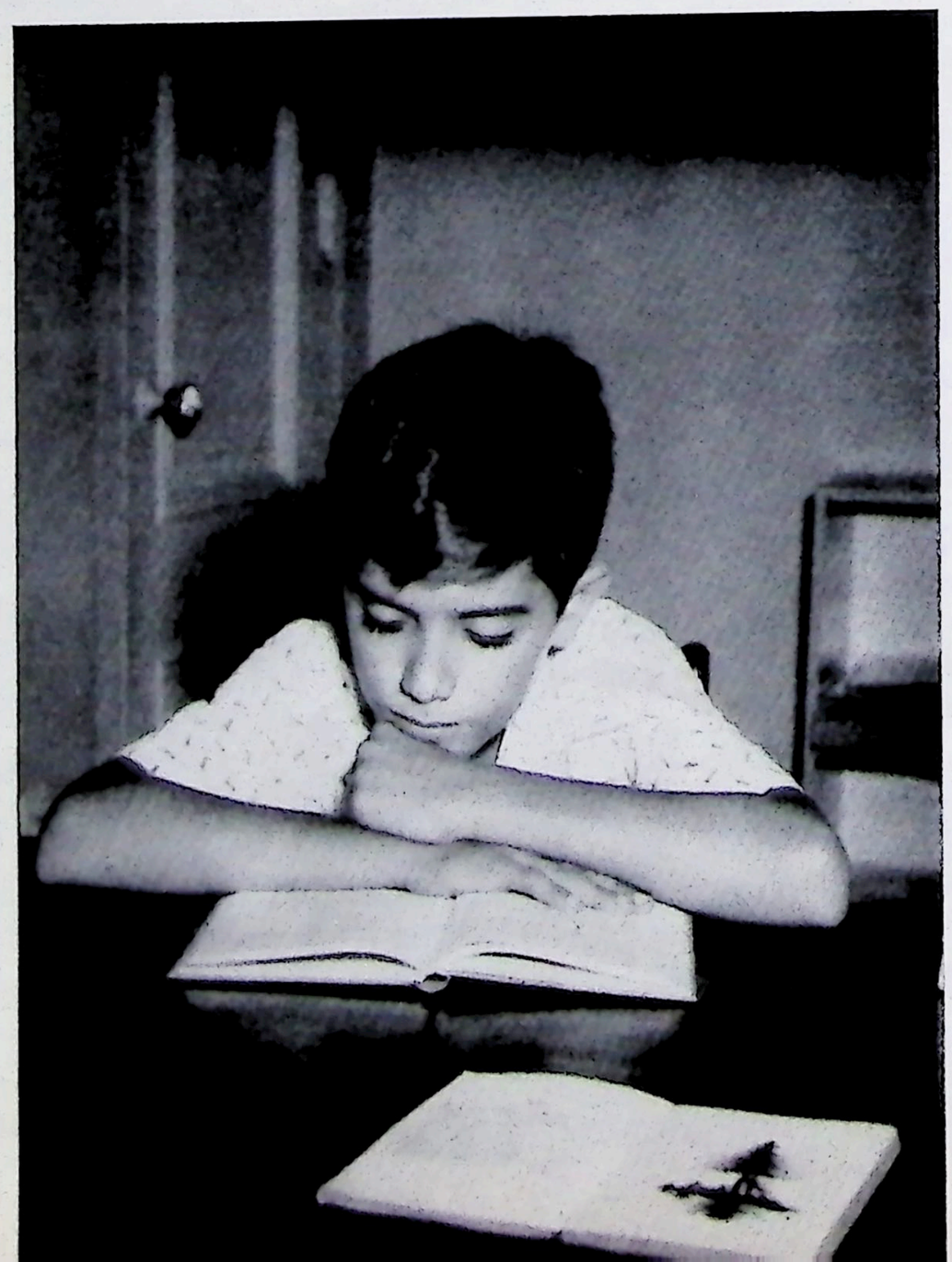


GUIDING AND EDUCATING

THE GIFTED CHILD

by Paul A. Witty Professor of Education, Northwestern University.

Prepared Under the Supervision of Compton's Pictured Encyclopedia
For the Compton's Educational Advisory Service



MANY forward-looking people believe that education should bring about the maximum development of every child according to his unique nature and needs. Today we recognize the responsibility of the home and the school in reaching this goal. Moreover, this goal of education applies to all pupils—to the gifted, the average, the slow learning, and the retarded.

During the past ten years educators have become increasingly interested in gifted pupils. Many different plans are now employed by educators to challenge gifted children's abilities and interests. These plans include acceleration, special classes, specialized schools, and partial segregation of gifted students from others for special classwork. The methods used to identify gifted children are also diverse.

Some gifted pupils attain very high scores on intelligence tests. In 1916 L. M. Terman designated as gifted those children whose intelligence quotients were 130 or higher. Such children were found at that time to constitute about one per cent of the elementary-school population.

This criterion of giftedness was widely accepted and is still generally employed. It has been used in selecting children for special classes such as the Major Work Classes of Cleveland. It has also been used in the selection of children for the more recently established classes for superior pupils in Indianapolis, St. Louis, and other cities.

The I.Q. is not the only mark of a gifted child, but it is a basic consideration. In some high schools the I.Q. is important in choosing students for specialized work.

For example, Morris Meister of the Bronx School of Science suggests that a rough line of demarcation be set at I.Q. 120. Although an I.Q. of 120 or higher is recommended for admission to this special school, other factors are also considered before a child is admitted.

Experimental studies have shown that some of our old ideas about gifted children were wrong. Contrary to popular thought, the pupil of I.Q. 130 and above is superior physically. Moreover, he is typically attractive, and he has many interests. He is not the physical weakling and social misfit that he was often supposed to be.

The gifted pupil usually succeeds well in his schoolwork. His academic superiority is general, and he is usually modest and cooperative.

His general educational growth progresses so rapidly that by the time he is in the upper elementary grades he has acquired more knowledge and skills than children who are two or three grades above him. Some gifted children even do the schoolwork of students four or more grades above them.

Because of the rapidity of his learning, the gifted child needs stimulating and challenging experiences. These experiences are seldom found in the large classes of most schools. Sometimes a gifted child's unusual ability is not even recognized in a large class. Many educators acknowledge this fact. A gifted child is often left to develop his skills by himself with little help from the school.

The school program for a gifted pupil should be geared to his extremely rapid rate of learning. Studies show that he usually masters the skills of his grade in half the usual time. It is obvious, therefore, that schools should devise a curriculum that will be sufficiently challenging and sufficiently varied to interest the gifted child to foster his development.

In special classes and in special schools, the time which a gifted child saves by mastering skills quickly may be used profitably in an enriched program of individual and group experiences. For pupils in the Major Work Classes of Cleveland, the program includes opportunities to study French, to do extra reading, to develop and report research, to cultivate aptitudes and talents, and to explore the field of science.

A broad and rich program is also found in the Hunter College Elementary School of New York City for gifted children of ages 3 to 11. Among the unique features of this school is the co-operation of the parents. They help in the library and they participate in many other activities to promote the welfare of the school and the children.

Stimulating programs have been devised for the gifted pupil in other cities. In Allentown, Pa., and in Baltimore, Md., special provisions for gifted children have been made for many years. Departures from the usual curriculum have recently been initiated in cities such as Pittsburgh where several types of programs have been designed for the gifted pupil.

One of these, called partial segregation, is followed in the Colfax Elementary School. In this school pupils of high I.Q. spend half of each day in workshops where they engage in constructive individual research or in appropriate group activity. The chance to study German is one of several unusual opportunities offered these gifted children. The other half of each day is spent in the regular classroom.

Outstanding efforts to challenge the gifted pupil who has high scientific ability are found in the Monroe High School of Rochester, N.Y., in the Evanston (Ill.) Township High School, and in specialized high schools of New York City. Honor classes also offer a challenge to talented students in certain cities such as Forest Hills (N.Y.) and New York City.

Parents should see that a gifted child makes use of community resources to aid his social adjustment. Elise Martens has described some community resources which provide unusual opportunities.

In Oakland, Calif., the Dads' Club holds a talent show each year. In several cities, organizations sponsor scholarships for the gifted. Museums throughout the country invite children to classes in art, science, history, and dramatics. These classes are often conducted by inspiring teachers. Churches provide opportunities for gifted children to render service in human relationships and to receive training in spiritual leadership.

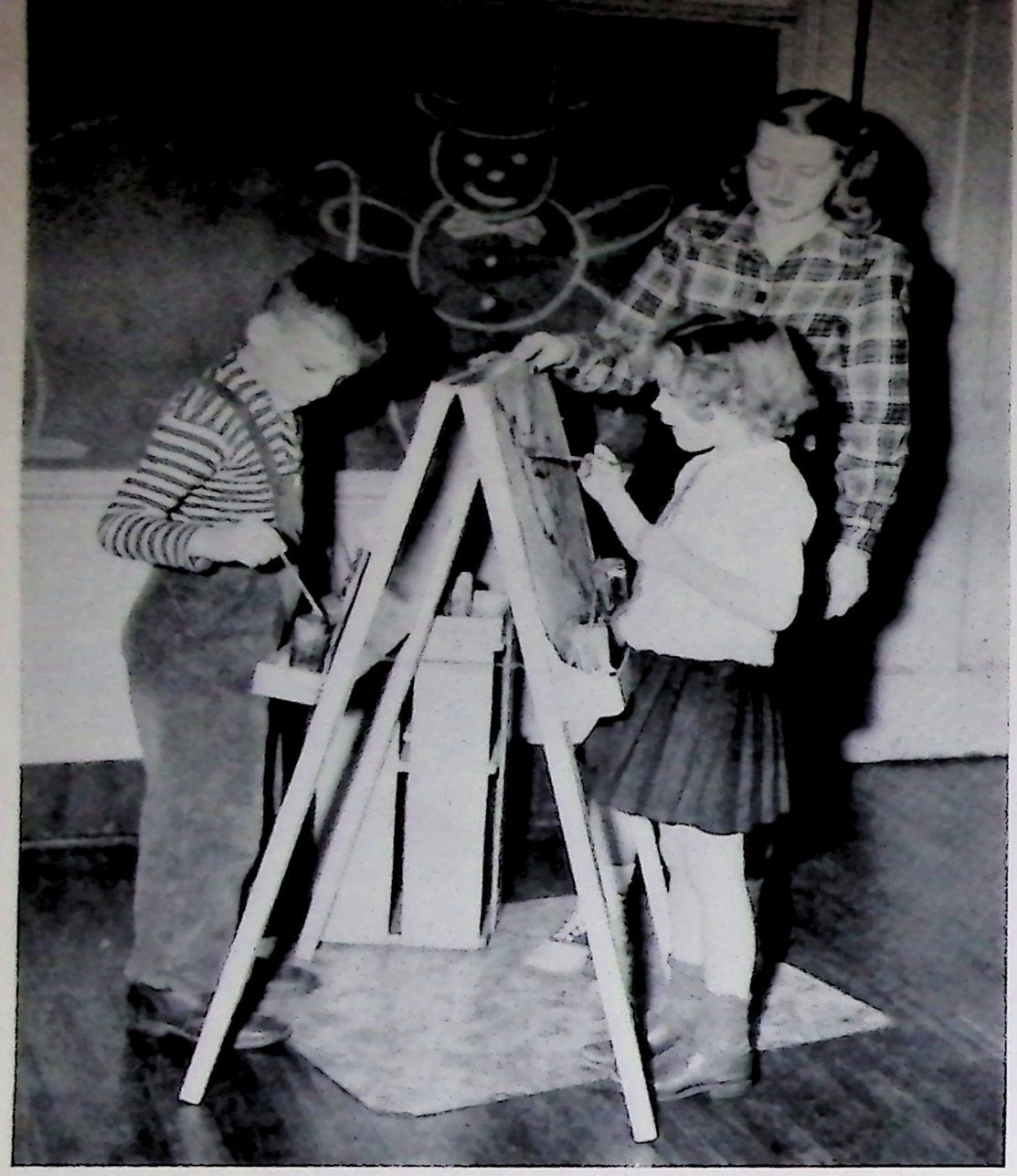
The gifted child, like other children, frequently needs guidance to attain maturity. Although he is somewhat superior to the average child in his social development, he is by no means so far ahead in this area as he is in his mental development. The discrepancy between his rate of mental growth and his rate of social development creates some problems.

For example, a gifted child of five may display the mental ability of an eight- or nine-year-old child. Physically he may be somewhat superior to other five-year-old children, but he will probably not be so well developed as children two or three years older than he. His social development too may be somewhat superior but not accelerated in proportion to his mental growth. Not surprising, therefore, is the discrepancy between some bright children's understanding of words such as *co-operation* and *loyalty* and their behavior in situations where these traits are necessary. The gifted child needs experience that will teach him to translate his academic understanding into appropriate action.

Special classes provide such experience. The attainment of social adjustment and emotional maturity is increasingly emphasized in the education of the gifted child.

There is a growing recognition of the value of acceleration in serving the needs of the gifted child. Acceleration enables a child to finish school quickly. He can get more education in a given period and thus reach the threshold of a productive life sooner. This saves both time and money.

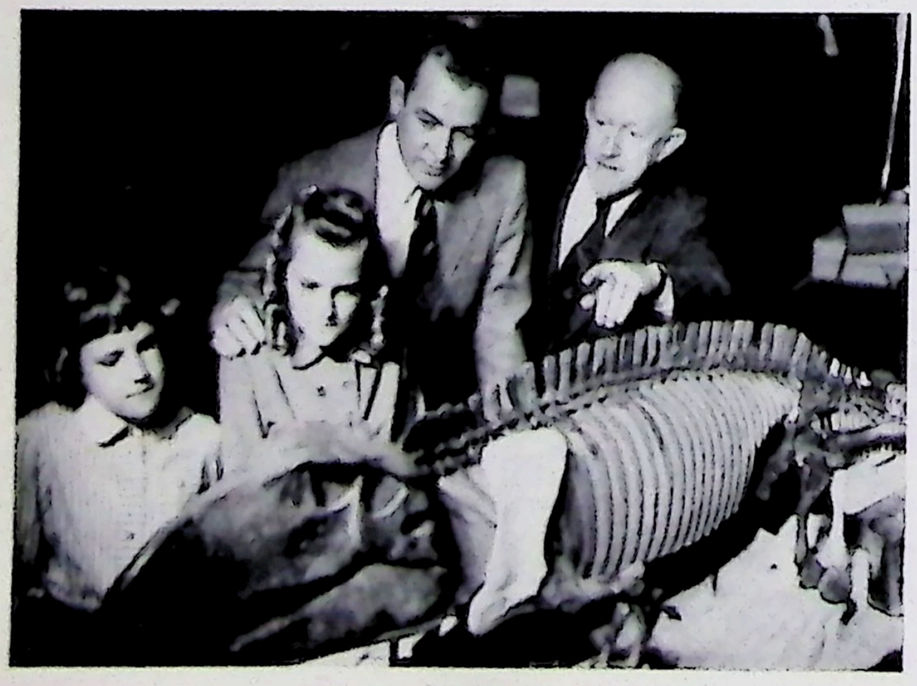
Grade skipping is an old and familiar form of acceleration. In the past it was employed much more often in the elementary school than in the high school. Recently, however, there has been an increased interest in, and more widespread use of, acceleration in the high school.



There are talented children whose ability in art, music, or writing can be recognized early in life by their performance.

The shape of the world becomes fascinating to bright youngsters when guided purposefully by an adult.

Leisure time is often productive of such educational activities as visiting museums.



For example, in 1951 the Fund for the Advancement of Education (established by the Ford Foundation) initiated and financed an experiment in "skipping" high-school students. Under the Early Admission Program, 420 fifteen- and sixteen-year-olds who had completed at least the sophomore year in high school and seemed "ready, both academically and in terms of personal maturity, to enter college" were given Ford scholarships for any one of 11 schools: University of Chicago, Columbia University, Fisk University, Goucher College, Lafayette College, University of Louisville, Oberlin College, Shimer College, University of Utah, University of Wisconsin, and Yale University. In 1952 Morehouse College joined the program. Many more scholarships were awarded in 1952 and 1953.

This experiment, which ended in 1956, was an important contribution to the education of superior students. The young scholars demonstrated to skeptics that a gifted pupil can skip a year or even two years of high school and still adjust socially, emotionally, and academically to college life at least as well as—and sometimes better than—his older classmates. Today an increasing number of colleges permit early admissions.

Another form of acceleration is the speed-up program. This enables an individual or a whole class to do the work of several grades in less time than usual. For example, in Baltimore a pupil of high ability may complete the three years of junior high school in two years. In senior high school he may take a year of college-level work and thus qualify for admission to college as a sophomore.

To Baltimore's credit, this program has been in operation for some 50 years. Graduates have been admitted to the sophomore classes of such well-known schools as Cornell University, Goucher College, Oberlin College, and Smith College.

The provision of college-level work in high schools received nation-wide impetus from another experimental program of the Fund for the Advancement of Education—the Advanced Standing Program, now sponsored by the College Entrance Examination Board. The Board provides high schools with descriptions of college courses in 12 fields and prepares examinations in them.

Students who pass the examinations may apply for college credit. By carrying slightly heavier than normal schedules in college or by attending summer sessions, students who are admitted with advanced standing can complete college in three years. They can take more advanced work or venture into fields which they might otherwise not have time to explore. In 1953–54, the first year of the program, 18 secondary schools and 532 students took part. The number of students participating has steadily increased.

There are obstacles to carrying on such a program. Many high-school teachers are not prepared to give such college-level work. Some college educators are reluctant to admit that any high schools can give satisfactory college courses. Still other sincere administrators and teachers believe that it is unnecessary to admit gifted children to college early. They think that profitable experiences can be offered gifted youth within the high school.

Acceleration for the gifted pupil at both the elementary and the secondary level has proved quite successful. Moreover, some investigators have suggested that failure to accelerate bright pupils sometimes has undesirable results. For example, Dean Worcester, who has studied this problem intensively, concludes:

"Acceleration recognizes the facts of life. Children do differ from each other markedly. Some develop much more rapidly than do others. Usually those of greater academic potentialities are also more mature socially and emotionally and fully as well developed physically. Failure to accelerate involves dangers. There is evidence to show that gifted children who are held back with those of their C.A. (chronological age) are more likely to develop behavior and personality problems than those who are accelerated."

It seems that a moderate amount of acceleration is justifiable in many situations. However, acceleration should be recommended only after studying the unique characteristics of the child and the type of class he will enter.

Surveys make it clear that the typical elementary school provides a too meager and too restricted curriculum for the gifted child. It is true, as we have already indicated, that during the past eight or ten years, increased opportunities have been offered bright students—special classes, workshops, and other provisions. Acceleration too has been more frequent.

Still the problem of caring for most of our gifted children persists. It should be borne in mind that many of the nation's most capable children reside in relatively small cities, towns, and rural communities in which special classes or other special provisions for the gifted are seldom present. Moreover, since many school administrators doubt the advisability of segregating the gifted, these children are cared for largely through regular classroom activities that are directed by the regular teacher.

There are important steps that the classroom teacher can take in an effort to offer more suitable instruction for gifted children. The teacher should provide challenging educational experiences and goals for children of high I.Q. Work in the regular classroom is often far too easy for such children.

The classroom teacher should ascertain the educational attainment of each gifted child by use of standard tests and systematic observations. Educational experiences should then be offered each child at his level. It is unsatisfactory and undesirable simply to demand of the gifted child a larger amount of work of the kind engaged in by other class members.

Reading offers a great opportunity for enrichment of the gifted child's school experience. The gifted child should be encouraged to use the library and other resources for carrying on rewarding projects and for research according to his interests. Wide reading will bring great individual pleasure to the gifted pupil. It will also bring rich rewards of many other kinds.

Through reading the child will gain help in understanding himself and in building his idea of self. His social horizons and his understanding of people will grow as he reads. One fact should be remembered about the gifted child's reading and about other activities as well. It may be anticipated that he will learn academic material in half (or less) the time ordinarily devoted to it. As Marian Scheifele says in *The Gifted Child in the Regular Classroom:*

"He will have free time, then, either for the entire period several days each week or for a part of the daily period. Such free time may be devoted to independent activities such as visiting community facilities, working in the library, interviewing resource persons, joining other classes for activities of special interest to him, working on school-wide projects."

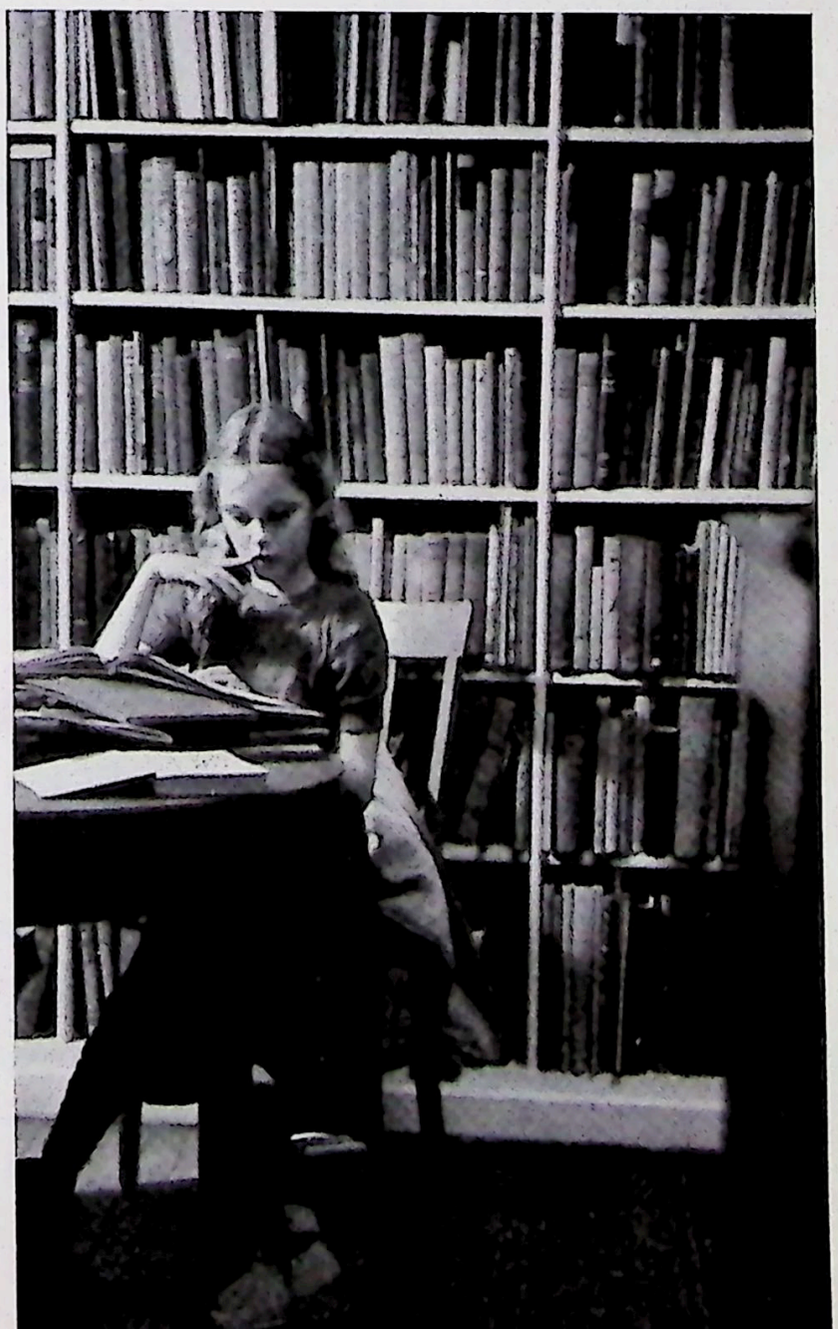
We have described the child who is gifted in abstract intelligence. We have indicated some of the efforts of educators to provide more adequately for him. There are, of course, other types of potentially gifted pupils.

The current interest in the education of the gifted student has been increased by the recognition on the part of scientists and educators that drop-outs of capable students in high school and college jeopardize the meeting of manpower requirements. As early as 1951, The National Manpower Council estimated that one-fourth of the 18-year-old youth had intelligence quotients of 110 or above. Of this fourth, 60 per cent did not enter college and 20 per cent did not complete high school. Of the 40 per cent that entered college, about half were graduated. More recent reports reveal somewhat similar conditions.

There has recently been a search for potential scientists among our bright youth. It is becoming increasingly clear that an arbitrary

Historical documents are always of interest to curious-minded young people.

Good books do much for children in stimulating cultural tastes and desires.



Violinist Jascha Heifetz encourages his musically gifted son when relaxing from concert schedules.

Very early in their lives, bright children often display exceptional appreciation of music.

Alert children enjoy concentrating on games like chess, a mental exercise they look forward to.

Youngsters with unusual conversational ability often participate in discussions.

Wise parents recognize the fact that horizons grow as children hear good thoughts and ideas.

selection of promising students for work in science according to high I.Q. alone might prove disappointing and inadequate. We have already pointed out that Morris Meister suggests several factors in addition to I.Q. for the selection of pupils for the Bronx High School of Science.

Among factors that characterize potential scientists, Paul Brandwein stresses high verbal and numerical abilities. He also emphasizes the significance of attitudes and drives which lead the student to persist in following an interest in the face of forbidding obstacles. A factor of significance which he stresses is the tendency of the student to seek explanations for phenomena, a spirit of inquiry which he calls "questing."

Brandwein points out that it is desirable to offer the potentially gifted student specific and varied experiences in the field of science. Stimulating programs of study are needed in the high school to challenge the interest and ability of potential scientists. In Brandwein's book such a program is described in detail. Included are suggestions for sequences of courses, directed and varied reading, participation in research, and other opportunities designed to challenge the potentially gifted young scientist.

We have described the child who is potentially gifted in abstract intelligence, and we have set forth some characteristics of the promising young scientist. However, there are other types of children whose gifts, like those of the potential scientist, can be identified chiefly through observation.

Perhaps it is advisable to broaden our definition of giftedness and to consider any child as "gifted" whose performance, in a valuable line of human activity, is consistently or repeatedly remarkable. There are children whose ability in art, music, or writing can be recognized chiefly by their performance. Intelligence tests do not identify these gifted children.

There is an increased tendency to think of giftedness in terms of this broader definition. In an experiment now under way in Portland, Ore., teachers' judgments and the results of standardized tests are used to find children of promise in several areas. Children are screened for exceptional talent in art, music, mechanical comprehension, creative writing, creative dance, creative drama, and social leadership.

Several approaches are now being explored in schools to foster the expression of gifts of various kinds. The classroom that encourages creativity is one in which children have varied experience with different media for expression in the arts. Under such conditions, the teacher will probably be able to recognize a gifted child among the other class members.

There is a special value in the use of films to challenge the potentially gifted pupil in the area of writing. Films can give each student a chance to tell what he sees. In one experiment the use of films not only stimulated creative expression but also aided in the selection of potentially gifted pupils.

Children who are potentially gifted in social leadership may be recognized by their performance in activities where they need to understand and to lead others. Their potentiality may also be suggested by the results of sociometric measures and nominating devices employed in the classroom. An interest inventory, such as the Northwestern University Inventory, may provide additional help in locating the child who enjoys social activities and tends to be a leader in many and varied pursuits. Student councils which exist in many junior and senior high schools offer an opportunity for enrichment of social experience. They may, indeed, serve as a way of identifying children who are potentially gifted in social leadership.

Some studies suggest that gifted children who become successful adults differ from those who do not in having parents who understood, guided, and encouraged but did not exploit them. Moreover,

successful parents frequently recognized their children's superiority when the children were very young. Many parents were sensitive to the following evidences of outstanding mental ability in their children:

1. Early and accurate use of a large vocabulary and unusual proficiency in other aspects of language development.
2. Keen observation and retention of facts.
3. Early interest in calendars and in telling time.
4. Attraction to picture books at a very young age.
5. Unusual ability to give and to sustain attention.
6. Early discovery by the child of cause and effect relationships.
7. Originality in various forms of verbal response.
8. Early interest and proficiency in reading and a great liking for books—including encyclopedias, dictionaries, and atlases.

Parents may take certain steps to identify the gifted child, and there are also some positive steps that they may take to help him to develop his abilities. Here are some ways in which they might proceed:

Parents should observe each child carefully for evidence of early language development and for symptoms of unusual speech and language patterns. The gifted child usually will acquire a rather extensive vocabulary when he is very young and will use sentences soon after he learns to talk.

Parents should observe each bright child carefully and make comparisons of his development with typical patterns of child growth. As we have already indicated, they will find that the gifted child will tend to show consistently, from year to year, a superiority in his language usage.

Parents should seek to answer children's questions directly, simply, and accurately. They should encourage children to verify their own answers to perplexing questions. Parents should encourage gifted children to develop interests in a number of worthwhile and individually appropriate activities.

The field of reading offers an unusual opportunity for fostering the gifted child's development and welfare. Parents may expect some gifted children to read, without formal instruction, before they start to school. This should be accepted gratefully, but parents should not overestimate its significance or use it to exploit the child. Parents should try very early in the child's life to help him develop interest and satisfaction in reading. They can best do this by reading aloud to the child before he can read for himself. Suitable reading lists are available in your encyclopedia and further help may be had from your community library.

Parents should observe each child's growing interests as shown in his reactions to television programs, in his outdoor activities and play pursuits, and in informal discussions. Parents can make a great contribution to a child's welfare by encouraging him to develop new and broader interests when his pattern lacks diversity and individual suitability. After identifying some appropriate interests, the parent should seek to help the gifted child satisfy them by providing suitable books and equipment.

Contrary to popular thought, gifted children usually develop many and varied interests as well as some very strong and persistent interests. At eight or nine years of age the gifted child may show a pronounced interest in encyclopedias, atlases, and dictionaries. These should be made available to him. At nine or ten he may read books on science, astronomy, geography, or history. He may experiment in chemistry or photography. He is often enthusiastic at this age about collecting and arranging specimens of various kinds. He may have several hobbies which he follows avidly. Thus we find a splendid basis in the interests of the gifted child on which to build desirable reading experience in the home and the school.

Parents can do much at home to promote steady advancement in the child's reading interests and tastes. Frequent family discussions of books are helpful. So too are group activities involving reading. As we have already indicated, the home should contain reference books including an encyclopedia and dictionaries. Magazines and other reading materials should also be made available.

To give the child added firsthand experience parents should plan trips, excursions, and visits to places of local interest. They might set up workshops and laboratories in the home to offer the child additional opportunities to explore and investigate problems of particular interest to him. There are now available many splendid books for children which encompass almost every worthwhile interest.

Despite their wide reading, gifted children often need adult guidance in finding books to satisfy personal needs. In a world of television and comic books they sometimes require encouragement and incentive to form individually suitable reading patterns. Like other children, the gifted need help in finding books to satisfy developmental needs as they arise. The children's librarian in your community library is trained to do this. Take her into your confidence and consult her frequently.

Recently, educators have emphasized the importance of satisfying needs through reading and related experience. Lists of developmental needs vary, but usually they include items such as understanding oneself and one's personal environment, understanding one's social environment, and building an adequate and satisfying ideal of self. Particularly important for the gifted child is the building of an ideal of self that is consonant with his ability.

It is also desirable for the parent to encourage the gifted child to become increasingly critical of books as his reading habits become mature. His interests should be awakened in studying the authenticity of presentations, their accuracy, and the quality of writing.

Gifted children often become rather competent critics and show unusual proficiency in judging the suitability and worth of printed materials. Parents can help children to choose books with discrimination if they are acquainted with children's literature.

Studies of very bright children show that they often have special gifts. We have already commented on their unusual language development which forms an excellent basis for proficiency in telling or composing stories. These forms of creative expression should be encouraged by parents.

Very early in his life, the bright child may display other abilities which should be fostered. For example, he may show a remarkable understanding of arithmetic problems. He may develop a strong interest in drawing or painting, and his products may be both superior and original. He may show exceptional skill and an appreciation ot music. Many of these children, with encouragement and guidance, may become distinguished creative artists.

Parents should welcome this expression and should neither minimize nor exploit the child's creative products. But recognition and praise, judiciously given for real accomplishment, will often prove strong incentives for further development of creative abilities.

It is well to bear in mind that gifted children, like all others, need security, affection, and encouragement at home. There are unquestionably some children whose rare gifts in art, music, or writing do not mature because of unfavorable or unsympathetic home conditions. Strong emotional reactions or deprivations at home will block growth and curtail expression.

Parents can plan social activities to offset the tendency of some gifted children to turn too frequently to solitary and sedentary activities including, of course, watching television. The parents should become informed about the nature and needs of gifted children and of the many opportunities that are available for giving the necessary guidance and encouragement which such children need as they grow up. ♦

HELP FOR THE SLOW LEARNER

by T. Ernest Newland Professor of Education, University of Illinois

Prepared Under the Supervision of Compton's Pictured Encyclopedia
For the Compton's Educational Advisory Service

THE term "slow learner" is sometimes confusing because it is used by most people in as many as three different ways.

1. People may call a child a "slow learner" who does less well in school than he is able to do.

2. The term may also refer to a child who does poor work in only one subject but satisfactory work in others.

3. The phrase is used by some people to mean that the child's learning ability is lower than that of other children of the same age and grade.

We really need three ways to describe these different types of children. The confusion results from the fact that the end product—the amount of learning—and not the cause of the trouble is described by the phrase "slow learner."

If we are going to help the "slow learner" this confusion must be cleared up, because each type of difficulty must be treated differently. Educators use more exact terms which avoid the ambiguity.

1. "Educational retardate" is the correct term to describe a child who does less well in school than he is really able to do. With a little help, this kind of child can work up to his capacity.

2. "Special subject disability" indicates that a child does less well in one school subject than in others. Often the things he does well are overlooked because his special disability attracts so much attention. Usually this condition can be corrected.

3. "Slow learner" is used by educators to describe a child who learns more slowly than the average child because he has developed more slowly intellectually. He may need an extra year to finish the elementary grades.

In the primary grades normal differences among children can make people mistake an average child for a slow learner. Boys may appear to be slow learners in comparison with girls when they are not. In language skills, boys develop more slowly than girls before they enter school. By the end of the first grade, only about 40 per cent of the boys can be expected to have first-grade reading ability. At least 60 per cent of the girls can then read at the first-grade level. This is normal and does not mean that boys are slow learners.

By the end of the third grade, this difference between the sexes in reading ability is greatly reduced. Girls, however, tend to be somewhat better than boys in language subjects throughout school. Boys, on the other hand, are usually better than girls with numbers.

A child may be mistaken for a slow learner if he is in a class of youngsters brighter than himself. Parents who were fast learners may compare an average child with themselves and think he is slow in learning when he really is not. Parents may also think a child is a slow learner because he doesn't seem to catch on as quickly as do his playmates or his brothers or sisters. Only trained people can determine if a child really is a slow learner. Once it is found that a child is slower in schoolwork than he should be, and once the reasons are discovered, educational adjustments can be made.

Helping the educational retardate to get better returns on his "intellectual capital," or ability level, may involve helping him and his parents with emotional problems.

Perhaps parents, teacher, and child need counseling or psychotherapy. The child may need the special remedial educational services provided in many schools. Professional advisers may suggest that parents call on a qualified tutor for help. Many other things can be done to help.

It should be determined if the child's difficulty has a physical cause. The child may need glasses or eye muscle training.

The child may need a hearing aid or special training to help him make up for a hearing loss. He may need to change the location of his seat in school. Sometimes removing a foreign object from a child's ear is all that is necessary. The educational retardate may need to see a speech specialist.

Because reading is the most important tool subject in school, reading difficulties are often the cause of slow learning. It is this area, therefore, which receives the most attention. Many schools employ remedial reading specialists to help the child.

For the child who "just can't get" arithmetic, English, or some other specific subject, the treatment is similar to that described for the educational retardate.

Research shows that only a very small number of children have some organic condition which interferes with their learning a specific subject. Most single-subject disabilities are caused by emotional, educational, or cultural conditions.

Children can be turned against a school subject in a number of ways. Parents or teachers may set too high a standard in a certain subject. They may insist upon too rapid progress in the subject. They may use the study of it as punishment.

Parents may give the child excuses for poor performance ("After all, I never was any good in ———, so why should Mary be expected to do well in it?"). The child may have a poorly trained or uninterested teacher in the subject. (A recent study showed that only 10 per cent of the people who were teaching arithmetic and mathematics were actually interested in teaching the subject!)

If we recognize these pitfalls, they can be avoided or corrected.

Many people are below average in height and yet are not dwarfs.

Many people do not read as fast as the average person but are not illiterate.

In the same way there are many people—about one out of five in our population—whose rate of intellectual growth and whose intellectual level at maturity are somewhat below the average. They are not mentally retarded or mentally defective. On the other hand, they aren't likely to succeed in, or even want to go to, college.

These people should not be criticized. They are more likely to be followers than leaders, but they play an important part in doing the work of the world.

Slow learners can and do grow up to be happy, well-adjusted people. These children have hopes, frustrations, and emotional problems just as all people do. They can love and be loved. They have their strong points and weaknesses just like the rest of us. But their development, particularly in the area of book learning, is limited. They cannot grasp complicated or abstract ideas as quickly as the average child. If the needs of slow learners are neglected in school or in their homes these children may become "problem children."

Even though parents want to help their child if he is a slow learner, they may have difficulty deciding whether or not he is really slow. Younger children in particular may not be recognized by untrained persons as slow learners because they sometimes have very good memories. Such children often show a surprising skill in recalling a large number of unrelated facts. While this ability may be useful, it doesn't insure that a child will be able to see more involved relationships among things.

The problem of treating the slow learner should be approached like any other. Get the facts. Then proceed in a psychologically sound manner to act in the light of those facts. The first step is to find out if your child really is a slow learner.

You can learn a great deal by observing your child before he starts to school. However, such observations must take into account your child's total behavior. What looks to you like an important sign may, by itself, be related to something other than slow learning.

The age at which a child feeds and dresses himself can show something about his learning ability. Parents may, however, cause self-feeding and dressing to take place later than need be and thus blur the picture. They may be too rushed to wait for the child's first clumsy performance.

It is also bad for a parent to be too eager to push a child into these activities. Buttoning clothes and tying shoelaces can only be done when the child has developed enough physically to perform these tasks.

A child's rate of speech development may give a hint as to whether or not he is a slow learner. But this too is affected by other things. A child's speech tends to develop better, for example, when the mother has time to talk a great deal to him.

A child's play behavior can be a gauge of his development. Play behavior includes both learning to play with other children and learning to do the things a child does in play.

Judging a child's progress on the basis of any one of these kinds of behavior can be very misleading. Judgments must be made on the basis of the total picture of the child's behavior.

There are several books which give the average age at which boys and girls acquire certain skills. But remember that the total picture must be considered, and keep in mind that the ages given in these books are only averages. The average age at which children walk, talk, or the like doesn't hold for all children. Some normal children behave that way when they are younger. Other normal children do the same things when they are a few months older. The younger a child is, the more careful you must be in deciding that he is a slow learner.

Because parents are human, they usually see their children's behavior the way they want to see it. At times, therefore, they need to see their children through the eyes of professional persons who are trained to work with children.

Generally, those best trained to do this are pediatricians and child or clinical psychologists. There are also a few psychiatrists who have been trained to work with children. The wise use of tests can help to prevent a child from starting schoolwork unhappily. Several kinds of information may be needed: psychological, social, emotional, medical.

How a child performs on such tests is by no means the whole story. Sometimes children do well on tests but are so emotionally upset or so tense that they act like slow learners when it comes to doing schoolwork.

Sometimes they do less well on these tests than they are capable of doing because of similar emotional problems. Sometimes the trouble is some other condition over which a child has no control. Poor tests may result from hearing or vision troubles or motor difficulty. Low test scores and low school performances have to be checked very carefully to be sure of their cause.

In some schools grades are given for citizenship, application, industry, and the like. These are separate from other grades which show achievement in reading, arithmetic, and other academic subjects.

When such a separate grading system is not used, and sometimes even when it is, the grades your child receives in academic subjects may not be absolutely accurate. They can be pulled down or made higher by the way your youngster behaves in class, or by how annoying or how "nice" the teacher believes him to be.

Teachers are as likely as any of us to evaluate people this way. Such "halo effects" can make school grades either higher or lower than they should be. The standards used in grading schoolwork, even arithmetic problems, vary from teacher to teacher as well as from pupil to pupil.

Some teachers try to grade primarily in terms of achievement. Others base their grades on how hard their pupils try to do the work. Most teachers give grades based upon some combination of achievement and effort. Teachers' judgments about your child's progress in school are always valuable, however, no matter what standards are used.

Because teachers' grades are bound to be ambiguous, it is helpful to get a more objective picture of how your child is doing in his school subjects. This can be done by standardized achievement tests, especially between the third- and eight-grade levels.

Some objective testing is possible in grades one and two, but the scope is limited and the chance of error is greater in testing at this age level. Many schools use tests which accompany readers and reading materials, and the results can be of some value.

Standardized achievement testing takes a somewhat different form in high school. Here some subject matter can be tested better than others. Because of this, it is more necessary than ever for the tests to be interpreted by the teacher or guidance counselor. The raw test score may have little meaning.

The interpreted results of these objective tests will help to give you a clearer understanding of how your child is getting along. Sometimes a teacher's opinion is more accurate than the results of a standardized test, but in most cases the test results are somewhat more complete. The teacher's evaluation and your child's test performance should be used together in deciding if he is or is not a slow learner.

Below-average performance in school subjects is not by itself enough to prove that a child is a slow learner. Slow learners do turn in lower academic performances, but so do other children.

Changing schools or teachers can affect a child's school performance. Census figures show that people move much more frequently now than they did a generation ago. Educational programs and facilities differ from rural to urban areas, from city to city, and from state to state. Even in the same school, teachers differ in their training backgrounds. They also differ in their skills, in the teaching methods they use, and in their experience in the use of those methods.

Children move from one school or one grade to another, and they must readjust with each change. Fortunately, most children can adapt easily. Most of them seem to make fairly good adjustments to such changes in their schooling. Some children, however, do not adapt so easily. This may lower their school achievements even if the new school is a better school.

Emotional conditions affect a child's school performance more than anything else. (Emotional conditions sometimes accompany the other difficulties which have been described.) This may be the difficulty with some children who "can't" talk or whose stuttering interferes with their work. Emotional disturbances may be troubling children who "won't apply themselves" to school tasks or children who apply themselves too industriously.

By the time slow learners and educational retardates reach the upper elementary and high-school grades, many of them have found that they can't do the schoolwork expected of them. They may deal with this problem in a number of ways.

Some of these children play hooky. Some escape into pleasant daydreaming. Some of them learn to rely on the help they can get from other children. Some of them sulk in the classroom. Some find that if they behave very nicely in the classroom and wrinkle their brows as though they are deep in thought they are passed in their work because they "are trying." Actually all these children are behaving like adults do when adults are in difficult situations.

The job of finding out just why some children are low achievers is a complex one. Often it is more than the teacher or parent alone can handle. An increasing number of our schools have recognized the significance of this problem and are providing trained personnel to cope with it.

You, as a parent, would do well to take advantage of such services. If they do not exist in your schools, you should try to have them provided. Many school systems employ specialists to work on the problems of the slow learner and the educational retardate. These persons may be called school psychologists, psychological exami-

ners, psychoeducational diagnosticians, or psychometrists. Some of the larger school systems also have medical clinics whose services are available.

Many school systems use the city's medical services. Still other schools use community mental health or child guidance clinics. Many colleges and universities have clinics to help teachers and parents study children's problems. Some states provide traveling clinics which can give the kind of help needed.

Some psychologists offer private professional help on this kind of problem for a fee. As a rule, the better qualified psychologist holds a diploma in clinical psychology. He has obtained this after much successful experience and he has also passed examinations of the American Board of Examiners in Professional Psychology.

Properly qualified professional persons should be consulted to find out whether a child is doing below-average work in his studies and to find the cause. The kind of help which parents and teachers may need will vary.

Most teachers know who their low achievers are and whether they are slow learners or educational retardates. However, most teachers are eager to have their observations checked. They are as eager as the parents to have a specialist's opinion. Fortunately, most slow learners can be easily and correctly diagnosed.

As we drive about the country we see load-limit signs posted on bridges. These are warnings against too heavy loads. Engineers know the strength of their building materials and make sure that their bridges will not collapse.

The same kind of thinking can be applied to educational engineering. A child's capacity to learn can be discovered before he is faced with the learning situation. It is necessary to be sure that the slow learner makes good use of his potential. The adults in his life, and the child himself, must learn what can be expected of him in school and in later life. In the case of slow learners, we know something about their "load limits."

If the same accomplishments are expected of all children in elementary school, the slow learners will not progress as fast as other children. They will do progressively less well if they are pushed along by "social promotion." If only conventional academic work is offered in high school, their difficulties will be even worse.

If you have a slow learner in school—and remember that a large number of parents do—you can help him considerably in the home. Children can and should be brought into family conversations and given the opportunity to tell about their experiences. Often they, like all children, need help in finding words for what they want to say. Provide the words and encourage them to talk freely.

Help can be given in spelling. Pencils and paper, crayons and paints, and chalk and blackboard (or crayon and wrapping paper tacked on the walls) can be provided at home. Parents can occasionally join the child in using these things. Talk about pictures in newspapers, magazines, and books helps to enrich a child's background.

Giving the child an opportunity to tell about things he has seen at school, at the movies, and on television is valuable. This can help him to learn words, to organize his thinking, to learn to express himself clearly, and to get along easily with adults. Especially with younger children, reading stories and discussing them can help.

Games can be played with word equivalents ("What means the same as 'large'?") and with word opposites ("What is the opposite of 'large'?"). Other games involve simple number combinations, city and state relationships, or spelling. The naming of words that begin (or end) with the same letters or sounds and a variety of other things are enjoyable and also educational.

It is better to capitalize on the interests of the moment than to plan regular home "class periods." Reading material can be valuable if the child is helped to use it at appropriate times. These things can be helpful in the home: *Compton's Pictured Encyclopedia*, children's magazines, a good children's dictionary, a good adult dictionary, reference books, and well-illustrated books of other kinds.

Parents can help the slow learner in a more fundamental way by attacking their own emotional problems than by supplementing school learning. Some parents create problems for themselves even before a child is born. They "decide" ahead of time whether the baby is to be a boy or a girl, light or dark, tall or short. If the child happens to be different from what they expected, most parents adjust to the facts, but others only think they do. They may appear on the surface to have readjusted, but actually they are unconsciously disappointed.

Some parents, without realizing what they are doing, show their regret or resentment. Sometimes they feel, usually without justification, that they were responsible for their child's not turning out as they expected.

Parents should accept their child emotionally and intellectually and with a warm understanding. The slow learner must be accepted first as a child and then as a child who happens, through no fault of his parents, to be slightly slower in his learning of school subjects. A slow learner can, and usually does, become a happy, self-supporting, and contributing member of society.

Parents can adjust to what they expect of their slow learner if they accept and understand him. The slow learner can be encouraged to train for a skilled trade rather than for professional or scientific work. He should be helped to choose high-school subjects suited to his ability. He should be helped to discover that there are many kinds of worthwhile work which he can do happily and with dignity. His performance and ambitions should not be unfavorably compared to those of his brothers and sisters or to those of his playmates.

His very real assets can be put to use. He should be judged in terms of how well he works and lives up to his own potential. He should not be judged in terms of how far he is ahead of or behind a brother, a sister, a classmate, or a class average.

If parents fail to adjust to the fact that their child is slow in learning, they create emotional tensions in themselves and in the child. Children respond to more than the words in their environments. What the parents do may be more important than what they say.

The child responds unhappily to a parent who is emotionally tense. He also responds badly to tensions between parents. The child may feel that something is wrong without being able to put into words just what it is. He then becomes tense too, and this impairs his learning efficiency.

If the slow child is expected to progress in his schoolwork at the usual rate, he actually has "two strikes" on him. The almost certain failure to do well in his schoolwork can easily be the third strike which puts the child out of step with society.

Some children give up or withdraw at this stage. Others strike out, sometimes in antisocial ways. The emotional climate of the home is important. It can determine whether the slow learner becomes a happy, contributing member of society or whether he becomes a disappointment to his family and to himself and a liability to society.

One psychologist proposed these three conditions as essential to the mental health of an individual: having a task, having a plan to accomplish it, and having freedom in executing the plan. For the slow learner, these are of very real significance.

He needs a task that he can attain, a plan that need not be arrived at without some help, and freedom to achieve his goal.

You as parents can help your child to define, to plan, and to realize his objective without frustrating him by unjustified demands and without carrying him on a pillow. ♦

HOW TO JUDGE

A HOME AND SCHOOL ENCYCLOPEDIA

for children and young people

The WISDOM MAGAZINE AWARD *is conferred upon Compton's Pictured Encyclopedia by Leon Gutterman, Publisher of* WISDOM. *S. J. Gillfillan, (left) Chief Executive Officer, receives the award presented to Compton's for "Significant Contributions To Knowledge and Distinguished Service To Education."*

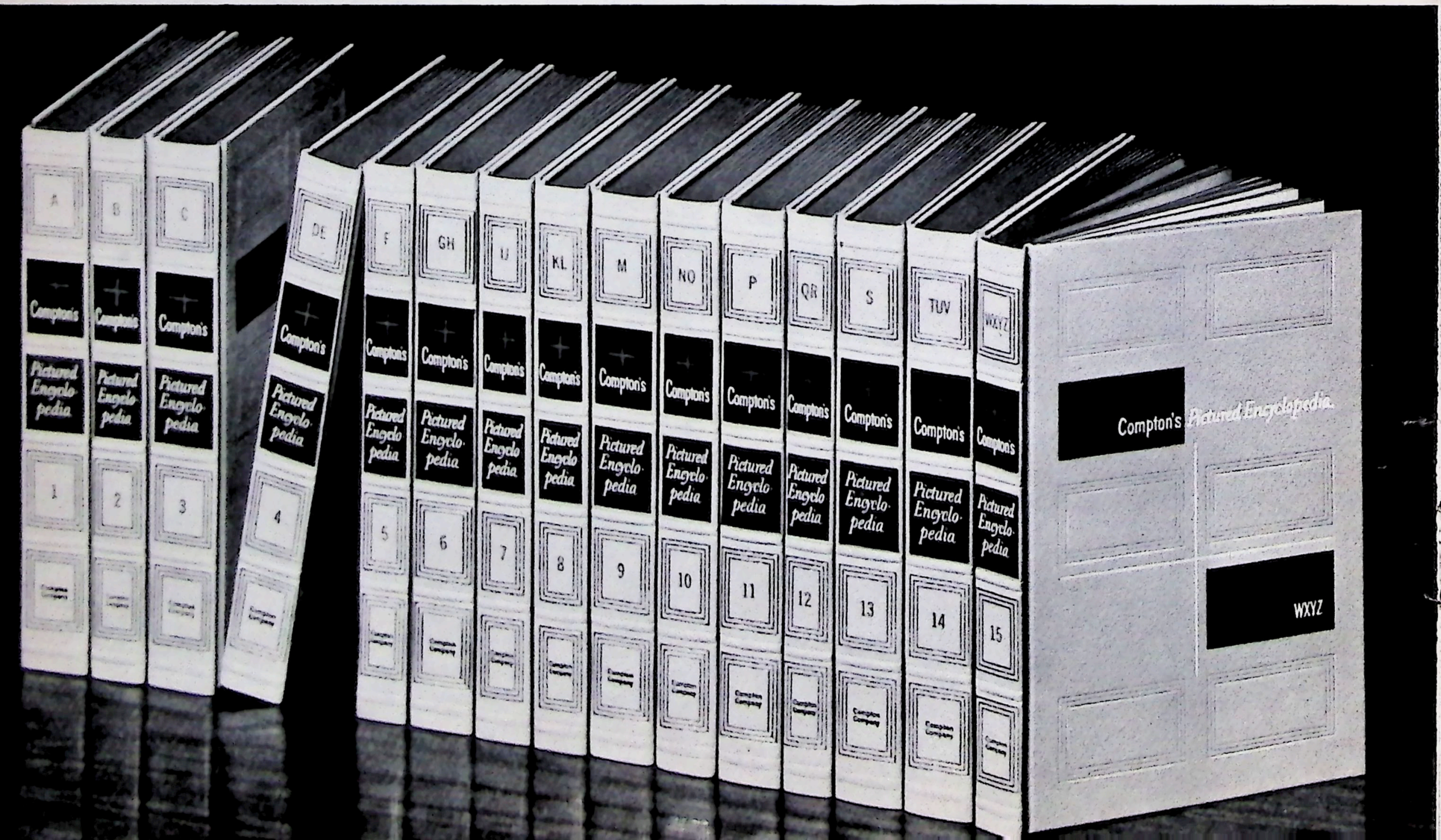
by Adelene J. Pratt

Prepared Under the Supervision of Compton's Pictured Encyclopedia

Education today is a continuing process not limited by age or grade levels. The younger school-age child studies the simpler aspects of subjects which come within his range of interest and understanding. The older child studies more advanced aspects of the same subjects as well as more advanced subjects. Informed parents have learned that sound educational materials are needed in their homes to enable them to do their full part in the educational development of their children and to prepare them for a rich and successful life in the world of tomorrow. Parents who have selected Compton's Pictured Encyclopedia for their home experience a gradual change in their family life. As both parents and children use it in pursuit of individual as well as family interests, a common interest in learning develops and the whole family grows closer together. Compton's Pictured Encyclopedia is built to meet the wide reference needs of youth required in modern school programs. The text, pictures, maps, bibliographies, reference-outlines, and graphs of all kinds are revised or rebuilt from edition to edition to meet the requirements of current events and changing emphasis. As a result, the new set is accurate, up to date in spirit as well as in fact, and as fresh as modern scholarship can make it. Compton's unique Fact-Index is the key which fully opens this pictured treasure house of interesting information. It locates specific information, pictures, maps, reference-outlines, and bibliographies by volume and exact page. In addition it contains thousands of facts in itself. In the case of broad subjects, it not only leads the reader to main articles but also locates information in other articles which might otherwise be overlooked.

S. J. GILLFILLAN

The WISDOM SEAL OF APPROVAL *has been awarded to Compton's.*



A CONNOISSEUR examining a work of art goes over the object with scrupulous care, looking for certain qualities which determine its value.

An encyclopedia may be similarly judged once the standards are established to which it must conform.

There are three general types of encyclopedias: the general adult encyclopedia; the special work of reference, devoted to a single branch of knowledge; and the school encyclopedia, which because it supplements courses of study has become the student's work of reference in the home, the school, and the library.

Each has its place. In making an evaluation, therefore, one should first ascertain the purpose of the work and then keep that purpose in mind throughout the examination.

In considering an encyclopedia with a view to purchasing or recommending it one should not lose sight of the special need it is to serve and should decide whether or not the book in question satisfies that need.

Encyclopedias of all types must live up to certain recognized standards. The three most important points to be considered are scope, authority, and arrangement. The following table of points may be set up as a more comprehensive guide:

1. AIM AND SCOPE
   - (a) Purpose of the work.
   - (b) Field it is designed to cover.
   - (c) Length and completeness of articles.
   - (d) Balance.
2. AUTHORITY AND ACCURACY.
   - (a) Standing and qualifications of the publisher, editor, and departmental and contributing editors.
   - (b) Authorship of articles.
3. ARRANGEMENT.
   - (a) Volume guides.
   - (b) Grouping of material.
   - (c) Cross-references.
     1. The *see* reference.
     2. The *see also* reference.
     3. The independent cross-reference entry.
   - (d) Index.
   - (e) Bibliographies.
4. UP-TO-DATENESS.
   - (a) Date, not of printing but of latest copyright.
   - (b) Indication by copyright dates of frequent revisions.
   - (c) Inclusion of recent developments.
   - (d) Freshness of illustrative material.
5. STYLE.
   - (a) Technical, or popular and interesting.
   - (b) Even and uniform, or uneven.
6. ILLUSTRATIONS, DIAGRAMS, AND MAPS.
   - (a) Clearness and distinctness of illustrations.
   - (b) Photographs or line drawings.
   - (c) Common or uncommon.
   - (d) Extent to which they supplement the text.
   - (e) Fullness and appeal of captions and legends.
   - (f) Service rendered by diagrams, charts, and maps.
7. FORMAT, BINDING, PAPER, AND TYPOGRAPHY.
   - (a) Durability and attractiveness of binding.
   - (b) Quality of paper.
   - (c) Size and variation of type.
8. BIAS OR PREJUDICE.
   - (a) Indications of propaganda.
   - (b) Attitude toward controversial subjects.

AIM AND SCOPE

Read the preface for the publisher's own statement of the aim and scope of his work. Is this statement clear and definite? Does it indicate explicitly the purpose of the work, and the field it is designed to cover? An encyclopedia in the adult field should contain more or less complete information on all subjects of any importance from A to Z. A reference work designed expressly to meet the needs of grade and high school students must be comprehensive in scope and at the same time fulfill school requirements as outlined in modern courses of study in a manner that conforms with the latest educational practices.

To examine the adult encyclopedia for scope, look for articles on several subjects in which you are interested and check to determine whether or not the material answers your needs.

In checking the school encyclopedia for scope, take a course of study offered by the schools of your own community; select one or two units, preferably in each of the history, geography, or science divisions, because that is where the need for supplementary material is greatest; and check to determine how well the encyclopedia supplements that curriculum in both text and illustration.

In judging both types of encyclopedias, bear in mind that the number of articles or the length of the articles is not a criterion of merit. Often a skilled writer can present all the necessary facts about a given subject in half the space that would be required by a less skilful writer. It should be the aim of an encyclopedia to compress its articles to the utmost degree without sacrificing either completeness of material or clearness and vividness of exposition. The more successfully this is done, the better the articles and the better the encyclopedia. Moreover, the value of an encyclopedia depends largely on the intelligent choice of the materials included. In building an encyclopedia for the general reader the problem of exclusion is just as important as the problem of inclusion. A work which has been rigorously and intelligently edited to prune away non-essentials in contents and redundancies in style saves time for the reader and saves space and money for the library.

An encyclopedia built for adult readers may have articles of 150 or even 200 pages in length, but such exhaustive treatment is justified only if the subject is of paramount importance. Otherwise the work will be lacking in balance. In the monographic type of encyclopedia the articles often run to considerable length because the information is arranged under a general heading. Related subjects are grouped together, falling into subdivisions.

Some encyclopedias follow the practice of breaking up a subject into small units, making each a separate entry in the book. This often leads to repetition and to a large number of mere "definition articles." In determining scope of contents, examine the articles. Are they exhaustive, or too brief? Is their length definitely proportionate to their interest and educational importance?

An encyclopedia designed to meet school requirements should not only include all essential facts, but each article should bring out the significance of those facts and show *why they are essential*, if the work of reference is to be adequate.

For example, the student may be studying "specific heat." An encyclopedic entry which simply defines the subject and gives the specific heat of various substances and includes formulas, etc., without telling the student, for instance, that the specific heat of water makes the world habitable, is educationally inadequate.

AUTHORITY AND ACCURACY

The question "Who is the publisher?" is important. How long has he been in business? Is he identified with works of a high standing? Standard encyclopedias, in both the adult and the school fields, list in their opening pages the editor-in-chief and his editors and contributors. The names of some may be unfamiliar, but look for their connections, which are listed. If you find among them important faculty members of well-known colleges and universities, and scientists, authors, explorers, or lecturers of note, you may accept their authority.

In indicating authorship two different methods are employed. Adult encyclopedias tend to follow the practice of signing all major articles with either the names or initials of the authors.

School encyclopedias have found it necessary to abandon that practice in order to attain the clarity and uniformity of style required of an "educational" work of reference. Different persons, equally eminent in their respective fields, will state facts differently and from different points of view. The grade or high school student, turning from one article to another in allied subjects, is bound to be confused by such discrepancy, either real or apparent. Therefore it is necessary to make sure that there are no conflicting statements in the work, and as a result statements of various contributors have to be clarified in many cases. Then, too, comparatively few specialists are able to write uniformly in the simple, vivid, and dramatic style that is best suited to young students. To attain that uniformity there is hardly an article which does not need to be extensively re-worked by specialists in the art of writing for young people. Again, to insure accuracy, all articles, no matter by whom they are written, should be submitted to the scrutiny of other competent authorities in the same field.

ARRANGEMENT

Volume Guides. There are three methods of indicating the contents of the various volumes—the split-letter, the word-by-word, and the complete-letter arrangement.

If one volume is labeled A-BOS and the next volume labeled BOS-CRA, the reader has no way of knowing which volume contains the articles on Bosporus and Boston. The spelling out of the inclusive words in full is more of a help but still confusing to young students.

In the school encyclopedia field an improvement has been brought about within the last few years in the development of the complete-letter system, whereby entries under every letter are complete in one volume. For example, in this arrangement, if you are looking for a subject beginning with B, you simply turn to the B volume.

Grouping of Material. Arrangement should by all means be alphabetical, but alphabetical arrangement does not mean the same thing in an encylopedia that it does in a dictionary.

No encyclopedia could put all its material in alphabetical order, for two reasons: first, too much space would be required to make a separate article for every subject; second, duplication would be caused by separate treatment of allied topics.

For example, if there is a separate entry for every term in architecture, such as arcade, colonnade, cloister, transept, etc., much space is used that could be saved by treating them all in a general article on architecture, because many of them are bound to occur in that article in any event. Also, a reader who wanted a complete treatment of the general subject would have to use several volumes.

In laying out the arrangement of his work, every encyclopedia editor is confronted with the problem of determining his main subject headings and deciding just what related information should be gathered under those headings. Naturally, there is a wide variation among encyclopedias in handling this problem.

One thing is certain. In a school encyclopedia, splitting a subject into many separate headings and articles is apt to destroy perspective and breadth of treatment. The sense of relationship between the parts and the light that each part throws on the other are lost. For example, the terms ampere, ohm, and volt can be defined separately with technical correctness, but a genuine understanding of the principles involved, their importance, and their practical application requires that they be explained and illustrated jointly in connection with the whole subject of electricity.

Publishers of encyclopedias use two methods of helping the reader readily find any subject he may seek. One method is to set up cross-references as independent headings; the other is to index the entire work.

Cross-References. Librarians are familiar with the use of *see* and *see also* references in catalogs and indexes. The *see* reference is used to direct the user from one heading to another, as: "Petrograd, *see* Leningrad." The *see also* reference is used to direct the user to headings under which additional or related material may be found, as: "Agriculture, *see also* Fruit growing; Gardening."

Encyclopedias use *see* and *see also* references in articles where the editors wish to indicate to the reader that other material bearing on the subject discussed may be found under other headings. The *see* reference is commonly introduced where there is mention of a subject which is developed at greater length under another heading. For example, the article on "City" may refer to the Industrial Revolution as a factor in the growth of large cities. The careful editor inserts at that point a *see* reference to the "Industrial Revolution" article, so that the reader may, if he desires, inform himself more fully on this subject. *See also* references are commonly made at the end of articles to direct the reader to allied articles, as, "Irrigation and Reclamation, *see also* Lands, Public."

Many encyclopedias, however, also use cross-references as *independent entries* to show the reader who may look for information under a certain heading that the discussion he seeks is to be found elsewhere, as: "Carbureter, *see* Automobile"; "Rifle, *see* Firearms." Such cross-references, used as independent entries, are commonly known in the encyclopedia field as "dummy" entries. These independent cross-references, or "dummy" entries, give no information and no page number. They simply tell you the heading under which you can find the material for which you are looking. Some encyclopedias depend exclusively on such "dummy" entries as finding aids.

The theoretical advantage of such an entry system is that it enables the reader to find any given subject in one alphabetic arrangement without the necessity of using an index. In practice, however, this does not work out so satisfactorily as it is supposed to. In the first place, it is not practical from a publishing standpoint to insert a cross-reference for every small subject treated in major articles.

One encyclopedia which has made an exceptionally thorough attempt to put "every subject in its proper alphabetical place" by the extensive use of independent cross-references contains approximately the same number of such cross-reference entries as it does articles, while another finds in each of its articles an average of ten minor subjects worth indexing.

Furthermore, the independent cross-reference system does not permit reference to the exact page where the desired information is presented, as it can only refer to the general article or to a major subdivision of a long article, leaving the reader to work through perhaps ten or twenty pages to find the small topic he wants.

Index. An index performs the same service for an encyclopedia that a card catalog renders to a library. It contains page-numbered references to every essential item of information in the entire work, thereby making available for instant reference all the information on any given subject.

Encyclopedia indexes are of three types: *dictionary*, *classified*, and *fact-index*. Examples of these indexes with explanatory quotations from the forewords of various encyclopedias are as follows:

The *dictionary* type, as used in some encyclopedias, "unifies the whole work, tells at once where each piece of information is to be found, prevents unnecessary repetition, and allows a large increase in the total information in the volumes."

The *classified index*, or "*reading guide*," as used in other encyclopedias "seeks merely to bring together all articles necessary to the complete study and understanding of a given science or field of endeavor," and depends upon "dummy" entries in the body of the work to direct the student to related material.

The *fact-index*, as found in 'Compton's', which "not only performs

the usual function of an index, but contains a wealth of quick-reference material, such as brief definitions of words, pronunciations, biographic summaries, condensed geographical data, résumés of chief events in history of various countries, numerous tables of unusual information, and a mass of other valuable material." The Compton index is arranged according to the dictionary plan.

Indexes in encyclopedias may be contained in one volume, or divided and placed at the back of each volume, as in 'Compton's'. The latter arrangement is an advantage in a school encyclopedia as it permits different volumes to be in use at the same time. Whichever arrangement is used, the index, of course, covers the entire work.

In examining an index, determine whether it is a dictionary, classified, or fact-index type. Determine the quality of the index by examining the entries on some subject such as Africa or Agriculture. Check for consistency in choice of subject-headings, inclusiveness of references to related articles, analysis of articles and breaking into component parts by use of sub-topics. Note whether the arrangement is convenient for quick reference. These factors largely determine the difference between skilful and mediocre indexing.

Bibliographies. An encyclopedia article is not intended as an exhaustive treatise. It should be augmented by bibliographies.

A bibliography compiled for adults and scholars may be quite exhaustive. In an encyclopedia for school use, selectivity of titles is preferable to an undiscriminating attempt at completeness. It is advisable to group the books for various age spans or school grades.

A Test for Arrangement. In testing an encyclopedia for arrangement, it might be a good plan to jot down a list of subjects at random. Then look them up and see how long it takes. How many volumes did you have to consult? How often were you referred from one subject to another? Did the set you used have an index, and if so, did you save time by using it?

UP-TO-DATENESS

The date of a work of reference is of great value in judging its usefulness and reliability. The copyright date, which should appear in every volume, is, of course, the actual date of publication. A series of these will indicate frequent revision. A recent copyright date, however, does not always indicate that a complete revision has been made.

To examine an encyclopedia for up-to-dateness note the date of the latest copyright and make sure that all volumes are of the same date. Select six or eight important events from various fields which have occurred within the last year or two and check to see if they are covered. Examine particularly subjects in which knowledge is rapidly changing and see if they contain recent developments.

Pictures form another accurate indication of up-to-dateness. The occurrence of antiquated pictures in an encyclopedia is evidence that it has not been adequately revised. Mountain heights should conform to the latest decisions of the Federal Board of Surveys and Maps. Graphs and diagrams should represent the latest developments in the fields they try to visualize. Maps should show the most recent boundary lines and the spelling of geographical names should conform to the best and most recent authorities. Examine population figures to see if they are those of the latest census, and turn to biographies of persons who have died recently to see if the death dates are given.

STYLE

In evaluating an encyclopedia for style, its purpose must be kept in mind. If it is designed for the adult, its style will appeal to the mature reader. If purely scientific, it will abound, naturally, in technicalities. But if an encyclopedia is designed for grade and high school students, its style must be uniformly clear, understandable, and interesting.

In an encyclopedia of this latter type, style is of paramount importance. It should be remembered, however, that condescension on the part of the editor in "writing down" to children will be quickly resented by the readers. The art of writing for children is one of the most difficult of all to acquire. Ask yourself when examining a school encyclopedia whether its writers have mastered this art. Do the articles have charm, simplicity, and appeal; and are they at the same time scholarly, dignified, and informative?

In comparing encyclopedias for style, examine several articles on technical subjects and topics with which you are unfamiliar to see which gives the clearest presentations.

ILLUSTRATIONS, DIAGRAMS, AND MAPS

Pictures are being used more and more in encyclopedias of all types. In those intended for the younger reader, their quality should be considered as carefully as the text. The photograph, the drawing, the diagram, the chart, and the map each has its own contribution to make, and in checking these five types of visual material the librarian should determine whether each fulfills its mission. There are photographs and photographs. Some really bring out and amplify the meaning of the text; others contribute little or nothing.

Again, are the illustrations carefully chosen for clear and distinct printing, or are they dull and flat? Are they placed with the subject matter they elucidate, or are they scattered in haphazard fashion?

Are the captions merely "label headings"? Is the legend—the lines under the picture—"lifted" from the text, or does it amplify the text? Caption and legend writing is an art in itself and can make or mar the usefulness of an illustration. A good legend, especially in a school encyclopedia, should answer the essential questions inspired by the picture.

Diagrams are necessary to make difficult subjects understandable. They are effective only if they show exactly how things work, if they explain complicated operations at a glance.

Charts serve the important purpose of bringing out comparisons or visualizing statistics.

An abundance of maps is also essential, particularly in a school encyclopedia. Check the maps to determine whether they are sufficient in number and type and if they are clear, easily understood and up to date.

FORMAT, BINDING, PAPER, TYPOGRAPHY

An encyclopedia should be built for wear and tear, for with the exception of the dictionary, no other book in the library is subjected to such constant and grueling use.

School encyclopedias should be especially sturdy if they are to withstand the onslaughts of students. In examining a reference work which will be used extensively by young folk, make sure that the volumes are not too unwieldy and that they are strongly bound to stand hard wear.

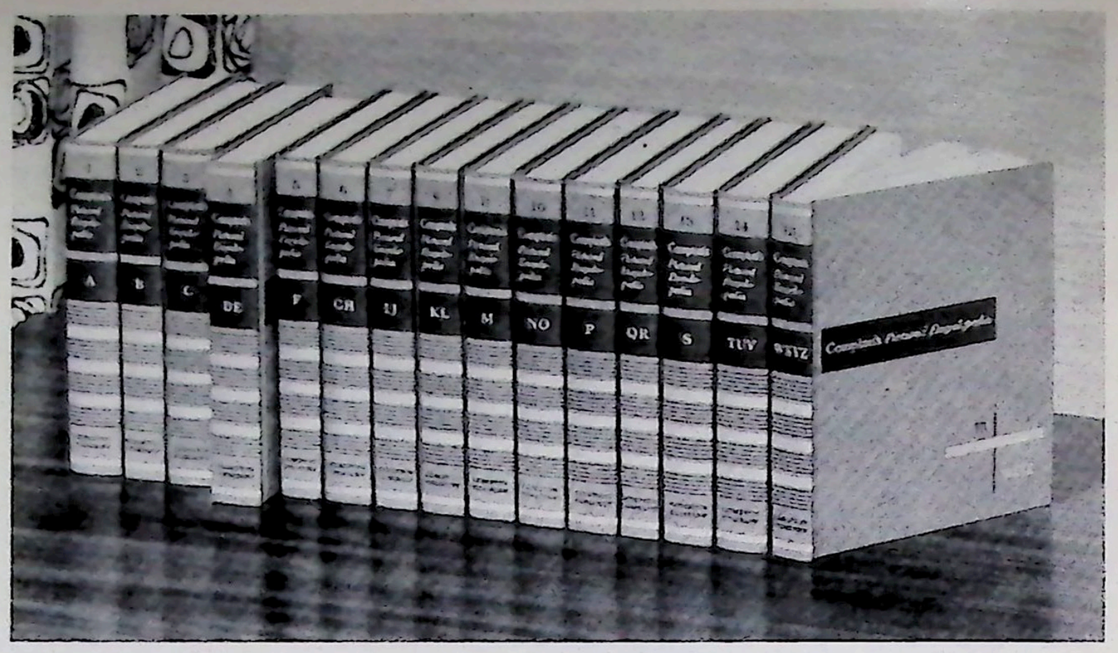
The paper should be heavy enough so as not to crumple easily and fold. A semi-dull finish which will not reflect light and cause eye strain and which at the same time will show up the type and halftones to advantage, is preferable to a highly coated stock.

The typography should be clean, legible, and attractive.

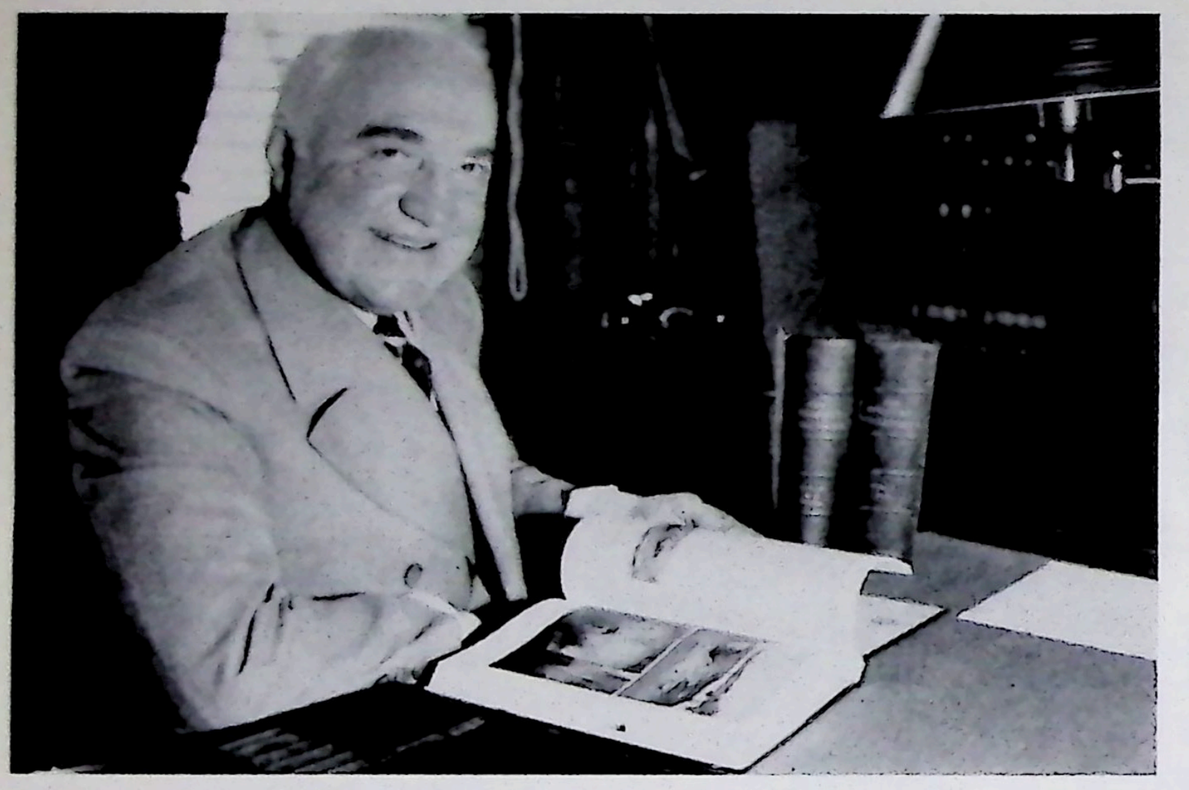
BIAS OR PREJUDICE

Has the encyclopedia a bias or prejudice that should be taken into account? Is it designed for any special class of reader, or issued under the auspices of any political or religious organization?

The practice of individual authorship and signed articles involves greater danger of bias in controversial subjects. Articles on such subjects as evolution, Soviet Russia, or the World War may be treated from any one of a number of viewpoints. Biographical sketches especially lend themselves to various treatments. The ends of impartiality are best served when such subjects are left not to single contributors but are presented as the composite work of several authorities. ◆



An encyclopedia like Compton's makes better men and women and more productive citizens of the American boys and girls fortunate enough to come under its inspiring influence.



In January 1919, Frank E. Compton opened editorial offices and founded Compton's Pictured Encyclopedia. The first edition went to press in January 1922, and upon publication was received with enthusiastic acclaim by educators and public.

THE MEN AND MINDS

by Guy Stanton Ford Editor-in-Chief
Compton's Pictured Encyclopedia

Dr. Charles A. Ford (left), Vice-President and Editorial Director, and Dr. Guy Stanton Ford (no relation), Editor-in-Chief of Compton's Pictured Encyclopedia.

WHEN the first edition of *Compton's Pictured Encyclopedia* was published in 1922, its purpose was plainly set forth. This was, in brief, to provide for home, school, and library use an encyclopedia that would add to the basic requirements of a sound reference work certain definite educational values.

The basic requirements are, of course, accuracy, scholarship, and comprehensive scope. But it is evident that these qualities alone, however well they may satisfy the trained student in search of specific facts, fall considerably short of the needs of laymen and, particularly, of young readers.

We knew in preparing the first edition that many a boy and girl would find in its pages a first real introduction to many a vital subject and many a great field of knowledge. Whether the incentive to open the books came from the suggestion of parents, from the requirements of schoolwork, or from the child's own natural curiosity, upon these pages would rest a responsibility greater than merely offering bare answers to isolated questions.

They must arouse interest, they must give color and significance and due emphasis to the facts, they must relate them to other essential facts; in short, they must give more than the young reader has the experience to ask for. Therein would lie their educational value, their power to stimulate thought and to enrich the mind of youth.

This was and still remains the view, the philosophy, if you please, of those responsible for the writing and publishing of these volumes. They put this belief into every page and before the thought of making and selling books for profit. More consciously and conscientiously than ever before their combined aim was a work, not only readable, but bound to be read at whatever page you open it. What we undertook to make may be summed up thus: An encyclopedic, alphabetically arranged survey of the whole field of

Education for all the children of all the people is the aim of Compton officers: (left to right): S. J. Gillfillan, M. E. Miner, the late F. E. Compton, C. S. Jones, W. E. Hill, and C. E. Snell.

Specially created to meet the school requirements of today's children and young people, Compton's is continuously revised, making the encyclopedia at all times up-to-date. Here Vice-President John E. Blang (seated) is shown working out manufacturing problems.

OF COMPTON'S PICTURED ENCYCLOPEDIA

knowledge, presented with such freshness and vividness, and embellished with such a wealth of illustration, that it should be as readable as a storybook, without anywhere sacrificing completeness or accuracy.

To put it in another way, our governing purpose was fourfold: (1) accuracy and breadth of view; (2) interesting treatment, obtained by focusing the attention on the most striking, salient, and picturesque aspects of each topic discussed; (3) simplicity, clearness, and directness of language, without insulting the reader's intelligence by trying to "write down" to him; (4) an abundance of illustrations which visualize and dramatize the text.

It is gratifying to know that the intervening years since the first edition appeared have confirmed, to a greater degree than we had dared expect, our faith in our original purpose.

Without boast we may say that the fifteen volumes of *Compton's Pictured Encyclopedia* have helped to transform public and professional opinion about the service of encyclopedias in home and school. Educators and librarians have given us invaluable support and co-operation in extending the usefulness of these books into new fields and multiplying their applications to school and reference problems.

Out of the day-by-day test of these volumes in the hands of children, of parents, and of teachers have come innumerable constructive suggestions. The maintenance of a permanent editorial and art staff, continually engaged in revising the volumes and keeping them up to date, has made it possible to take almost immediate advantage of these suggestions—a rare privilege for the encyclopedia editor. To meet particularly the growing school requirements for supplementary material in the social and physical sciences, the work has been expanded by hundreds of pages. The original list of contributors, special writers, and departmental editors was a roll which would honor any encyclopedia. It has since been enlarged by the participation of many other distinguished men and women.

An extraordinary amount of editorial supervision and of co-operation between these many contributors was necessary to co-ordinate their work, to obtain a style and method of treatment which should be uniformly simple and clear, to reconcile the varying views of different authorities, and to avoid conflicting statements in articles relating to the same subject. Many an article represents five or six revisions and the combined efforts of as many scholars and skillful writers. The whole body of contributors and consultants has been gathered together into a single alphabetical list, with an indication of the subject or field for which each individual is chiefly responsible.

In carrying forward my work as editor-in-chief, I may be permitted a few words of commendation and appreciation to all the scholars who have responded promptly and heartily to requests for their aid and co-operation, to the staff of writers, artists, and map makers who have labored in season and out with zeal and unwavering fidelity to the ideals set at the beginning. Above all I pay tribute gladly to the unremitting labors of the late Dr. Samuel Bannister Harding and of his various and eminent editorial successors who have put the stamp of their scholarship and integrity on these volumes.

I speak not only for myself but for the whole staff when I say that no group engaged in a similar project has had more consistent and loyal support than we have had from the publishers of this work. They have shared our every purpose as here expressed, and they have never counted the cost of any plan or request that would make the volumes of *Compton's Pictured Encyclopedia* more nearly realize this new conception of an educational work. ♦

LEARNING

Life's Great Continuing and Inspiring Adventure

from the Wisdom of Compton's Pictured Encyclopedia

AT BIRTH a child is the most dependent of creatures. He could not live without help from others. As he grows older he becomes increasingly independent. Aimless kicking and crying are replaced by asking for what he wants and by getting things for himself. He buttons his clothes without help. He speaks new words every day. The tricycle that gave him so much trouble at first he can now ride with little effort. Soon he is counting, repeating the alphabet, and printing his name.

Thousands upon thousands of basic skills are acquired during childhood. All these things must be learned. Learning is both acquiring new reactions and changing old ones. Skills and certain other acquisitions are called habits. Learning itself is sometimes referred to as "habit formation." In addition to skills there are study habits, habits of thought, the smoking habit, and so on. Some habits are "bad" and others "good." The learning process is much the same whether the habits are good or bad and whether they are primarily muscular (like riding a bicycle) or verbal (like counting).

The brain of a newborn baby is only one fourth of its adult size. It is also immature in other ways. Millions of nerve fibers must grow and interconnect before it is fully developed. This immaturity explains in part the baby's poor learning ability. He has not yet learned that he can learn. There is no foundation on which to start.

Within a few weeks after birth, however, learning is well under way. Having learned that crying brings attention the baby soon learns to stop crying when he is picked up. Soon he becomes quiet when he just hears his mother's voice. He has learned to connect sounds and persons. Although he is not aware of it, he has begun to learn that it is possible to change his environment through his own actions. He is learning how to learn.

When the child discovers his hands and feet, his clothes, and the objects around him he soon develops motor skills. His verbal skills begin when he understands what is said to him. A much greater development occurs when he can use the words himself. When he can speak he can ask questions. As skills develop, the child increases his power to learn new things. When he has learned to read, a new tool for learning is available. Having learned arithmetic, he is ready for algebra, then for higher mathematical skills. These open up the fields of science. The more we learn, the better we are equipped for further learning.

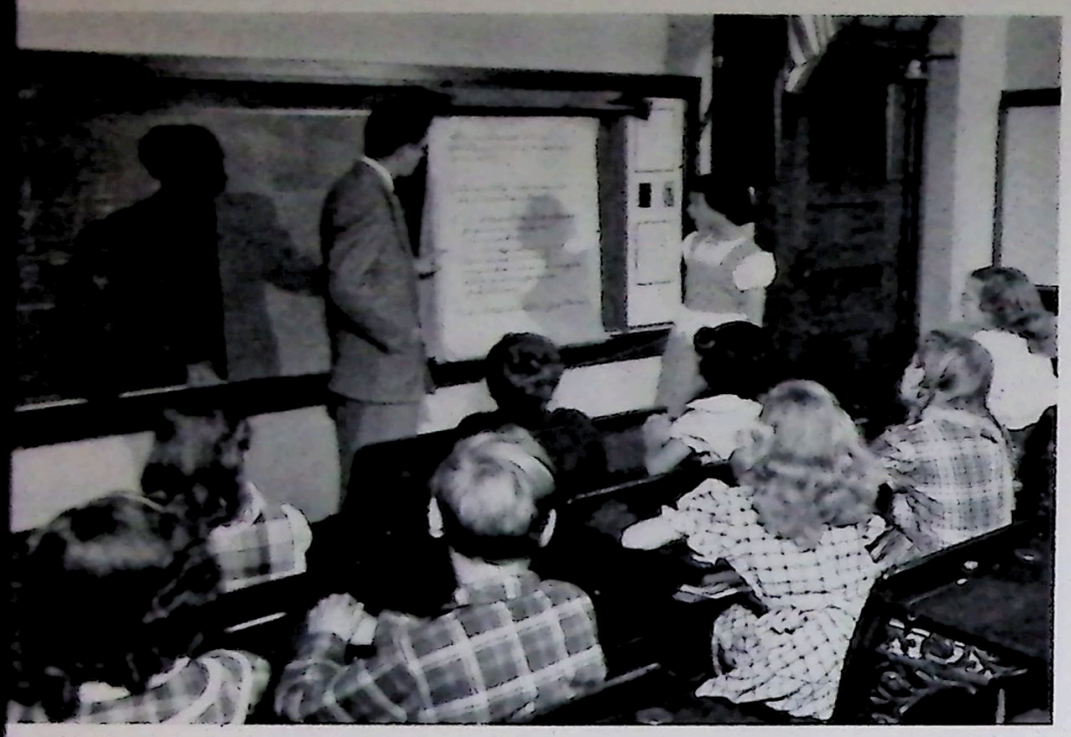
Learning requires stimulation. Learned reactions are responses to stimulation. The child touches a hot stove and jerks away his hand. Heat is the stimulus, jerking is the response. With one or two such experiences the child learns not to touch a hot stove. The sense organs and muscular mechanisms, therefore, are of great importance to the learner. Normally the most important sense is vision. Hearing is second in importance and touch is third. People born with neither vision nor hearing are very greatly handicapped. Only through intensive use of their sense of touch can they be taught to take care of themselves and to communicate with others. Helen Keller is an illustration of what careful training through touch can accomplish in a person who is both blind and deaf.

We learn to put on warm clothes when our temperature sense tells us it is cold. We recognize many objects through taste and smell. Muscle sense (kinesthesia) likewise plays a part. Muscular defects may hinder or prevent the learning of motor skills. As in the case of sensory defects, it is sometimes possible to overcome such handicaps by making uses of muscles that remain unimpaired.

Once motor skills are acquired, the kinesthetic sense becomes extremely important. After we have learned through vision where the electric-light button is, this sense enables us to go directly to it in the dark. It also accounts for the fact that we can carry on complex motor skills more or less automatically. Driving an automobile or operating a typewriter by the touch system are examples.

Learning requires stimulation. A kindergarten class learns through touch and observation.

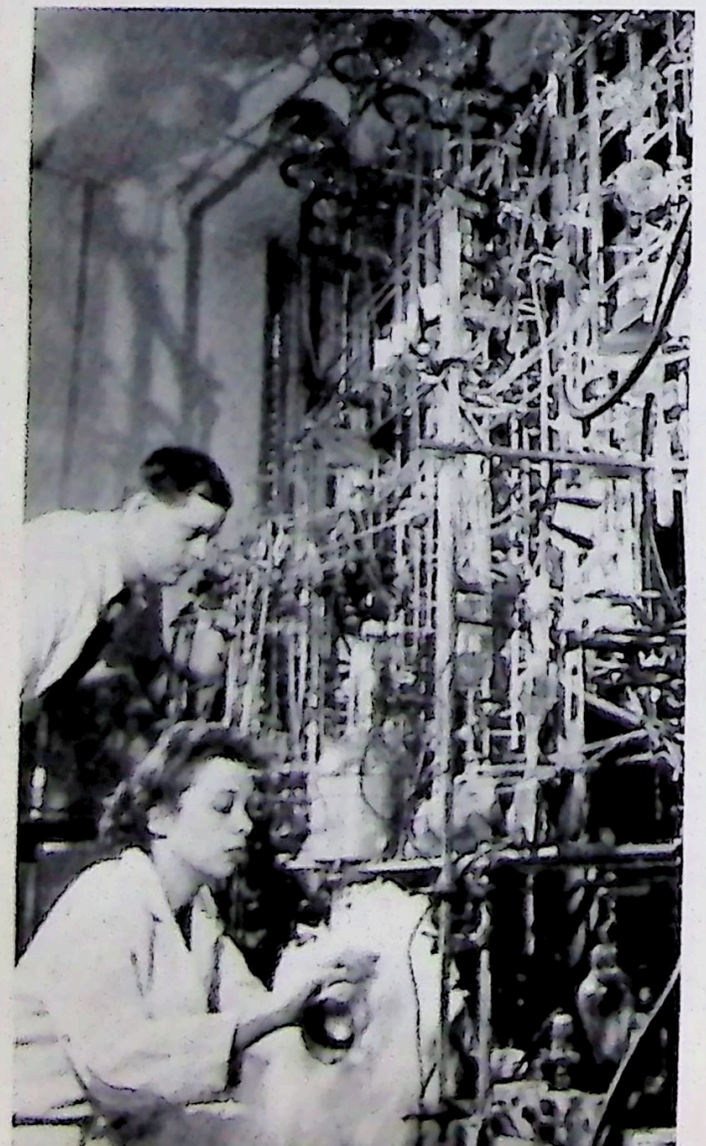
Learning in human beings requires rewards. These children are repaid for their efforts with a thriving community of fish.



It was once believed that certain difficult subjects, Latin and Mathematics, disciplined the mind.

Learning one skill helps others. A study of mathematics aids biology students in their work.

Research workers on an oil project check apparatus used in their task.



Specialized kinesthetic sense organs called receptors are located in the muscles, tendons, and joints. Muscle movements stimulate them, sending nerve impulses into the spinal cord and brain, then back again to the muscles. These impulses provide the succession of stimuli, or cues, necessary to carry on a learned sequence of movements.

Although sense organs and muscles are necessary to learning, the most important structure of all is the brain. This not only interconnects sense organs and muscles, but its billions of nerve cells somehow retain a record of what has happened to us. How they do this is not known. There are many theories. One scientist likens the nerves of the brain to the wires of a wire recorder. The wire is changed magnetically. This modification then makes possible a "playback" of what has gone into the mechanism. Certain it is that the playback is operated chiefly through the brain.

Learning ability increases as the brain grows in size and complexity. Animals without brains cannot learn much and the little they do learn is not retained very long. The rat has only a small brain, but it learns to find the correct path through a maze, it learns to associate food with certain signs and not with others, and it even learns to solve simple problems which require recall of past experience and elementary reasoning. It also retains what it learns, sometimes for months.

The dog, with a much larger brain, can learn skills and solve problems too complex for the rat. Confronted by a barrier placed between itself and food, the rat will attack the barrier. A bright dog grasps the uselessness of such an approach and makes a detour around the obstruction. This is an example of learning through insight rather than a simple trial-and-error attack.

Learning by insight is more evident in the apes, such as the chimpanzee. These animals have brains far in advance of the dog's. Their learning ability is "almost human" because they also have superior sense organs and their fingers possess almost human powers of manipulation. All three superior factors—brain, sensory ability, and powers of manipulation—enable chimpanzees to acquire complex skills and solve involved problems.

Learning ability decreases as a result of brain injury. In general, the loss of learning ability is in proportion to the extent of brain damage. The handicap is greater for complex learning than it is for simpler learning. Injury to the front part of the brain interferes with ability to grasp the meaning of situations and to act appropriately. Insight and reasoning are impaired.

Many psychological studies of learning are carried on in laboratories with animals, children, or college students as subjects. When motor skills are being investigated, the most widely used apparatus is some form of maze. An animal runs through the maze or along the top of an elevated maze pathway. Human subjects usually trace a smaller maze with a stylus while blindfolded. The animal learns the correct pathway because it is hungry and food is found at the end of the path. As it learns to avoid blind alleys, it gets its reward more quickly and with less effort. Experiments have shown that it does not learn unless it has a need and its efforts satisfy this need. Thus nonhungry rats fail to learn a maze when food is the only reward. Make them hungry and they soon learn. Likewise, hungry rats who find no food at the end of the pathway fail to learn. Place food there and the maze is soon mastered.

Learning in human beings also requires rewards. Sometimes this is the knowledge that one is making progress toward mastery of a task. Perhaps his reward is a "well done" from an observer. Children who were given money when they reached the end of a maze pathway learned more quickly and with fewer errors than those given no reward.

Mazes are widely used because a pathway may be arranged which is new to all learners. A fair comparison of the learning performances

of different subjects could not be made if some had already had practice. When verbal learning is being studied, subjects are often required to memorize lists of such nonsense syllables as TOJ, XUH, and GIK.

Progress can be followed by plotting a learning curve. Along the base one marks off trials or practice periods. Each trial may be a five-minute practice period. Along the vertical axis progress in learning is indicated. This may be shown by plotting errors or successes. In a typewriting test, for example, the line may show the number of errors or words correctly typed in five-minute tests.

When very complex skills are being learned, there is often a period of little or no progress. This is known as a "plateau." Poor motivation may be one explanation for plateaus. In one industrial situation, the average worker reached a level of skill which would enable him to "get by," and he showed no further improvement. When a bonus based upon piecework was offered, however, the average output soon increased.

When motivation is at its highest possible level and methods of maximum efficiency are used, performance often reaches a limit beyond which no further improvement is possible. This is the *physiological limit*. It is reached when the errors cannot be reduced and when the correct movements are made as fast as brain and muscles will allow. Very few people ever reach their physiological limit in any skill.

Three factors are especially important in learning. Keeping them in mind will greatly improve the effectiveness of learning.

The first factor is the *principle of rest*. Experiments in the laboratory, in the classroom, and in industrial situations have shown that much more efficiency is attained with frequent rests than with practicing continually for long periods. In general, a one-hour period without a rest is long enough. In the case of intensive study, a half-hour period may be better. If the student spends 15 to 30 minutes getting settled and trying to concentrate on what he is doing, a half-hour study period is largely wasted. In any case, when one finds that he is reacting automatically, going through the motions without grasping what he is doing, it is time for a rest. Continued work without rest will bring diminishing returns. Rest periods need not be long. Often a few minutes may be effective. What happens during the interval is especially important. The best retention occurs during sleep. One cannot have a nap between each work period, but he can relax as much as possible. The principle of work and rest applies equally well to learning motor and verbal skills and to study.

The *principle of recitation* should be applied when we try to memorize something. Without recitation one merely reads the material again and again until he is able to repeat it. With recitation he reads, then tries to recall. After the first reading or so, he looks at the material only when he is unable to recall some of it. He follows this procedure, with rest periods, until the entire material is recalled.

The third factor is the *principle of whole versus part learning*. In memorizing a long poem, for example, the results of research suggest that one should begin with the entire poem, then concentrate on the verses which give most difficulty. In studying a textbook assignment, also, it is preferable to begin by skimming through the entire assignment, then concentrating on parts which seem to require detailed study. Finally, one should go over the entire poem or assignment again. This might be called the "whole-part-whole" method of procedure.

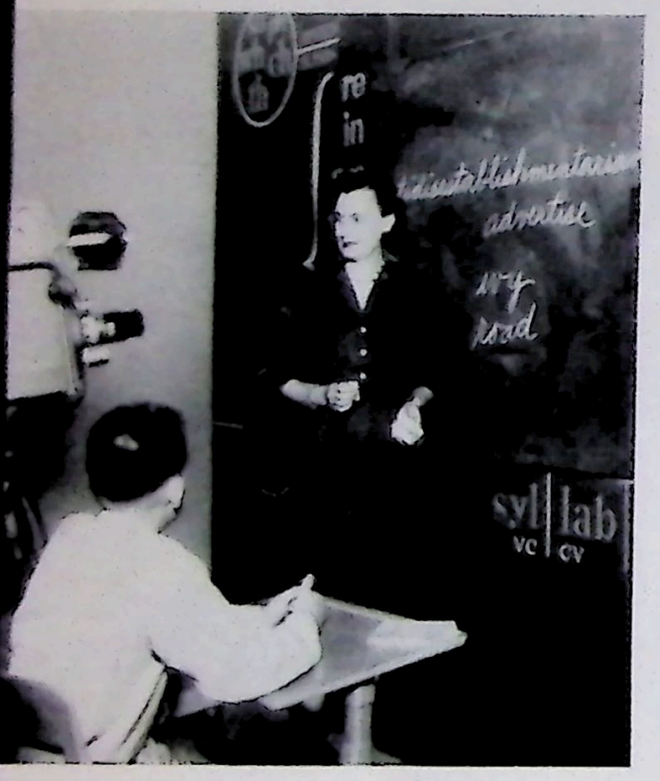
Learning ability shows its greatest growth during the first 15 to 20 years of life. In the late teens one has a brain that is about as mature as it will ever be. After we reach adulthood there is a period of about 20 years during which learning ability remains at a

Anatomy students are taught that learning ability is greatest from the age of fifteen to twenty.

The increasingly important study of Humanities is being discussed at a college review conference.

Retention and mastery of subject matter is greatly aided by repetition and thorough instruction.

The most important sense in learning is vision. Art students are sketching from a posed model.



With the shortage of teachers, television is emerging as a vital factor in American education.

With the sum total of their learning as well as their potential, graduates face the test of life.

high level. Beyond this period it becomes increasingly difficult to learn new things. The slowing down is evident when we attempt to learn entirely new things, as in the case of a person who has never learned mathematics and who now attempts to master mathematical skills. The chief reason for the decline of learning ability in later years is that the brain is no longer as easily modified nor as retentive as it once was.

Learning one skill often helps in learning others. Similarity between tasks is an obvious reason for transfer of learning. To the degree that activities have similar aspects, use similar methods, and follow similar principles one can expect that learning one will aid in learning the others.

Some school subjects transfer a great deal to other subjects. Students who first study mathematics are helped in their study of the physical sciences, which make much use of mathematical symbols, methods, and principles. Latin aids in the study of Spanish because many Spanish words are derived from Latin.

Occasionally transfer is a hindrance. This is sometimes referred to as habit interference. When one has achieved skill in typing by the visual "hunt-and-peck" method, he has unusual difficulty in learning the touch method. He persists in using visual cues when he should be using touch and kinesthesia alone.

It was once believed that certain difficult subjects, especially Latin and mathematics, "discipline the mind." This concept of transfer is referred to as the "doctrine of formal discipline." Large-scale experiments on high-school students have shown that students who take Latin and mathematics are usually brighter than average to begin with. Thus their superiority cannot be attributed to the subjects studied.

In a carefully controlled study of a large group of high-school students, all students were given a test. On the basis of their scores they were divided into groups of the same average intelligence. They studied certain subjects in common. In addition some groups took Latin, some mathematics, and so on. At the end of the year they were all given another test which would indicate whether any particular study improved their intelligence more than another. The conclusion was against the doctrine of formal discipline. No one study had a general mental effect which differed from other studies.

We do not learn merely to improve our minds in any general sense. We learn specific facts and skills. We should acquire habits which aid further learning; information which enriches our everyday lives and helps us to understand the world we live in; skills which enable us to earn our living; and above all, interests to carry us through the later years of life. We begin the learning process in early infancy. It need never stop during the rest of our lifetime. ◆

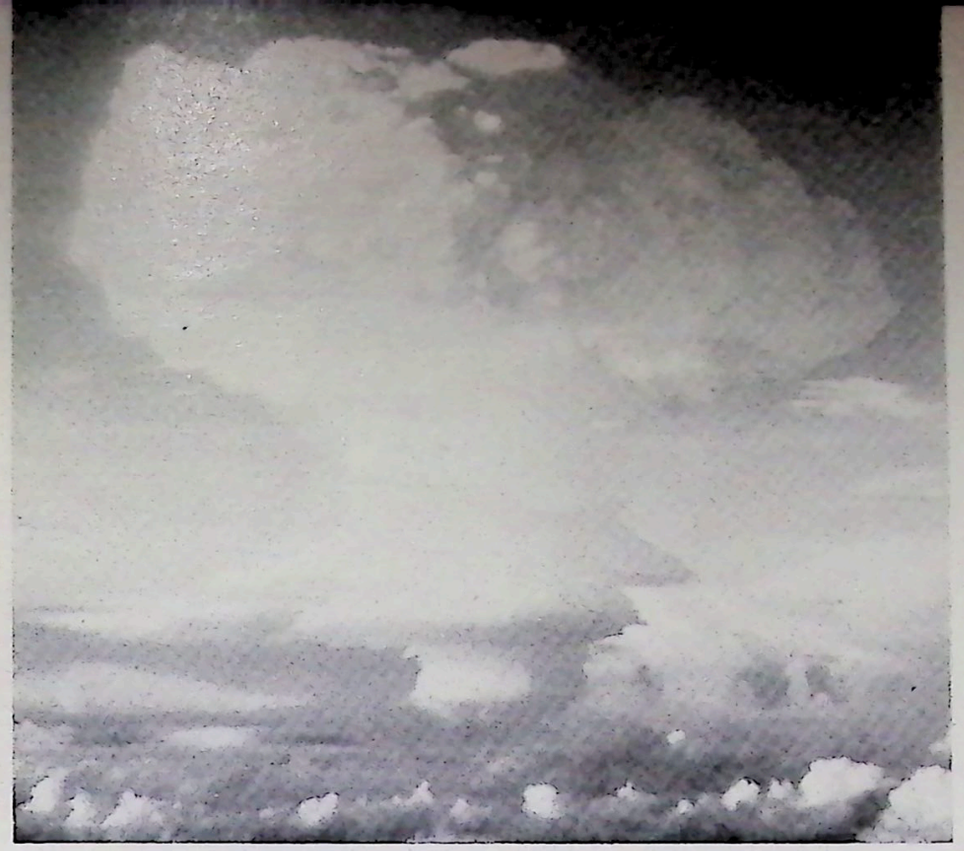
Most fathers and mothers need help when they select a new encyclopedia for the home. They deserve to know how an encyclopedia they are considering was built, what it was built to do, and what it is doing today in homes like theirs.

Most people know more about cars, appliances, furniture, clothing, houses, and other things that they buy than they do about educational books for children. And still the educational books they buy for their children to grow up with are in many cases the most important single thing they'll ever buy for them!

The kind of a car a child rides in, the kind of clothes he wears, or the kind of a house he lives in is not nearly as important as the kind of books he reads and studies.

A book in a child's hands can lead him to want to read and to learn, challenge him to find out for himself, interest him in his school work, help him to understand the world around him, teach him the things he needs to know, and inspire him to do his best.

S. J. GILLFILLAN



GALILEO

father of modern physics

from the Wisdom of Compton's Pictured Encyclopedia

THE first astronomer to work with the telescope, discoverer of the pendulum's laws, and founder of modern physics was Galileo Galilei (usually known as Galileo). He was born in 1564 in Pisa, Italy, and died 78 years later, within a year of Newton's birth. With his telescopes, the wonder of his age, he discovered the mountains of the moon, four satellites of the planet Jupiter, and the peculiar appearance of Saturn which was later shown to be due to a great ring, or a series of rings, surrounding that planet.

When Galileo was a youth of 19 he saw a lamp in the cathedral at Pisa swinging regularly. He realized—what no one had realized before—that a pendulum swinging to and fro could be used to measure time, and so laid the foundation for the invention of the modern clock. He also proved that falling bodies, however heavy or light, fall at the same rate. The story goes that he proved this by dropping objects from the leaning tower of Pisa.

Galileo was a brilliant scholar with a quick and penetrating mind. He held the professorship of mathematics in the universities of Pisa and Padua; but in 1610 he left Padua for Florence, where he lived most of his remaining years.

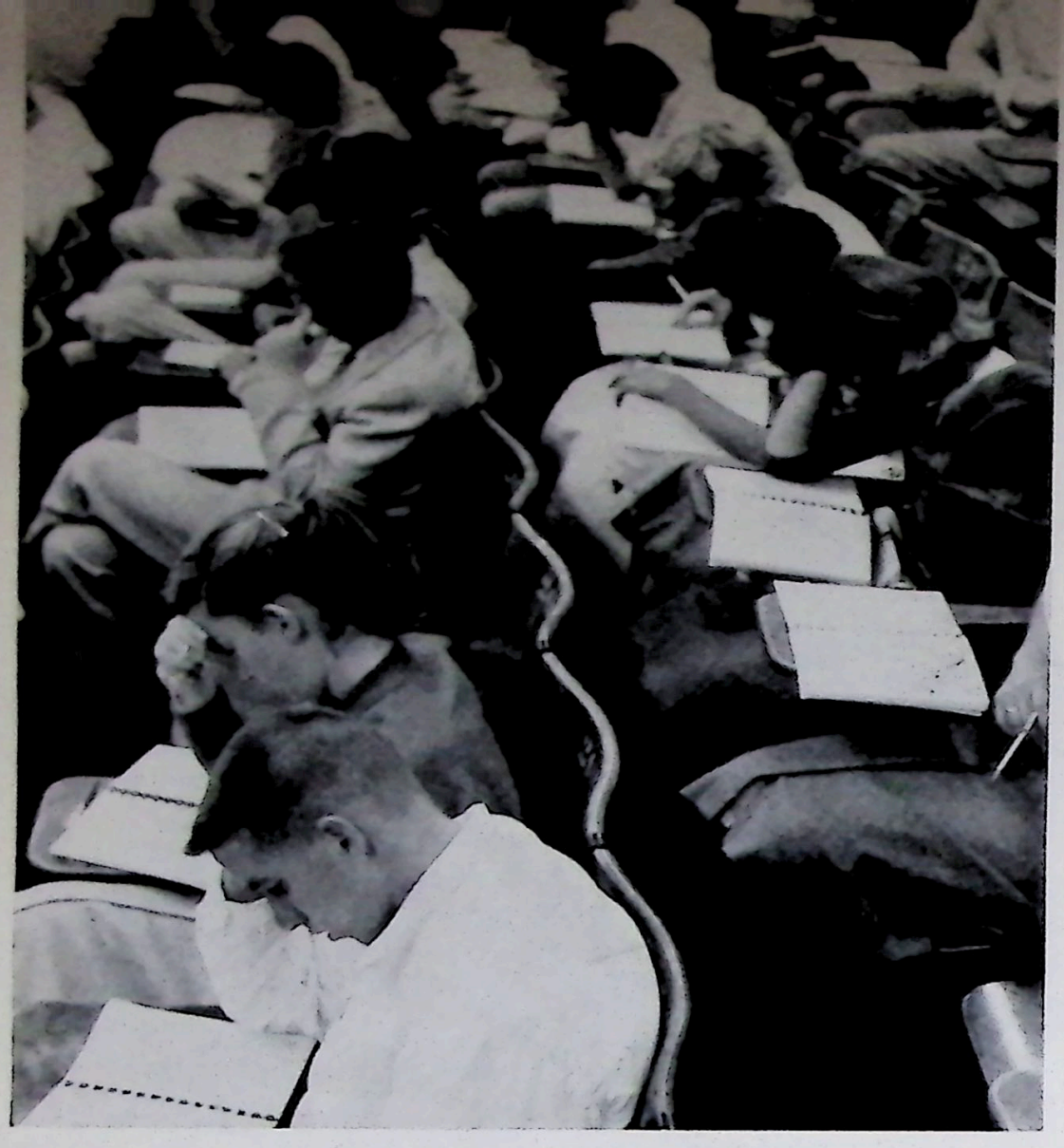
Galileo made his first telescope with a piece of organ pipe, placing a lens at each end. It magnified only three times, but later he made a telescope that magnified 30 times.

With these he saw the mountains on the moon's surface, found that the Milky Way was a mass of very faint stars, and discovered the largest four satellites of the planet Jupiter. What he saw through his telescopes also convinced him of the truth of Copernicus' view that the earth rotates on its axis and revolves around the sun. His ardent support of this view was the cause of difficulties with the church. In 1616 he was given a formal warning, but nevertheless he again provoked the indignation of the church authorities by publishing a dialogue on 'The Great Systems of the Universe', which offended by its misuse of Holy Scripture as well as by its biting satire.

For this publication he was summoned before the Inquisition in October 1632. No one knows what happened during his examination, but we do know that he uttered a formal recantation of his views and was compelled by the tribunal to live in strict seclusion for the rest of his life. There is a story that as he rose from his knees he whispered defiantly, "Nevertheless it does move"—referring to the earth; but this is fiction invented a century later.

During the last eight years of his long life Galileo lived in retirement near Florence, but his interest in science never waned. His most admired and perhaps most valuable book 'Discussions of the New Sciences' was published during this period. In this work he summarized his lifelong studies on the principles of mechanics. Only when blindness overtook him in 1637 did Galileo lay aside his telescope. Still continuing his scientific meditations, he dictated notes and correspondence almost to the day of his death, Jan. 8, 1642. He was buried at Florence in the cathedral of Santa Croce, where a monument commemorates his brilliant researches.

Galileo achieved his greatest reputation as an astronomer, but his chief service to science lay in establishing certain fundamental principles of dynamics, such as the law of falling bodies, the discovery that the path of projectiles is a parabola, the demonstration of the laws of equilibrium, and an account of the true principle of flotation. He also devised an elementary form of the thermometer, invented the hydrostatic balance for determining the specific gravity of solid objects, and made improvements in the construction of the microscope. Not only was Galileo one of the main founders of modern science by virtue of his discoveries, but also by virtue of his methods. Rejecting the authority of Aristotle, he observed things for himself and based his deductions on actual tests and mathematical analyses. This is the true spirit of all modern experimental science. ♦



DEVELOPING A GOOD MEMORY

from the Wisdom of Compton's Pictured Encyclopedia

REMEMBERING is one of the most important things you do. Yet ordinarily remembering is done with so little effort that you may not realize how complicated it actually is. Psychologists define memory as the knowledge of an event or fact coupled with the further knowledge that the particular event or fact has been experienced at some time in the past.

To understand memory, we must split up the process into its several phases or parts. Of these the first is called *association*. This means the coming together of the two experiences so that the thought of one brings up the thought of the other. As I was walking down the street one day two automobiles collided at the corner of Main and First streets. Whenever I pass that corner I think of the collision. I do not think of it when I pass another corner, because no association was made between the other corner and the collision.

The second phase of memory is known as *retention*, and refers to your power to retain associations in your mind. It varies from individual to individual, and seems to be based upon a native quality of the nervous system. The opposite of retention is forgetting. We forget most in the first hour, less in the next, less in the next, and so on. After the first 24 hours, the rate of forgetting is relatively slow.

A student studying French, for instance, finds that he learns the meaning of 50 French words one day; the next day most of the words will be forgotten. If, however, he practises the forgotten words the next day, and on succeeding days, in the course of time he will master the list completely. In school we do not study arithmetic for one whole day, grammar the next day, and geography the next day, but we study arithmetic, grammar, and geography each day for short periods, in order that we may reinforce the memory bonds which have been weakened through the rapid forgetting that takes place during the first 24 hours.

The third phase of memory is usually spoken of as *recall*, and refers to the ability of the individual to bring up, under the appropriate circumstances, that which has been associated and retained. If I ask you a question such as "What is 9 times 6?" you may immediately say "fifty-four," thus recalling what you have previously learned and have retained. On the other hand, you may be unable to give an answer at the immediate moment, yet a few minutes later recall perfectly, indicating the material was retained.

The ability to recall under appropriate circumstances is obviously the test of memory. Thinking of the answer to a question in your examination paper after you have left the room is of little value in comparison with thinking of the answer when the question is asked. The ability to recall depends in large part upon the number of associations which have been formed with the particular fact to be recalled. The great opportunity for improving memory lies here. Each association forms a "handle" by which to pick out of the storehouse of your brain the fact you need.

The fourth phase of memory is called *recognition*, and refers to the "tagging" by which we assign the experience a place in our earlier life. It is the feeling of "pastness" or familiarity. Ordinarily, recall and recognition go hand in hand; occasionally, however, recognition occurs without recall. A face may be familiar, yet call no name to mind.

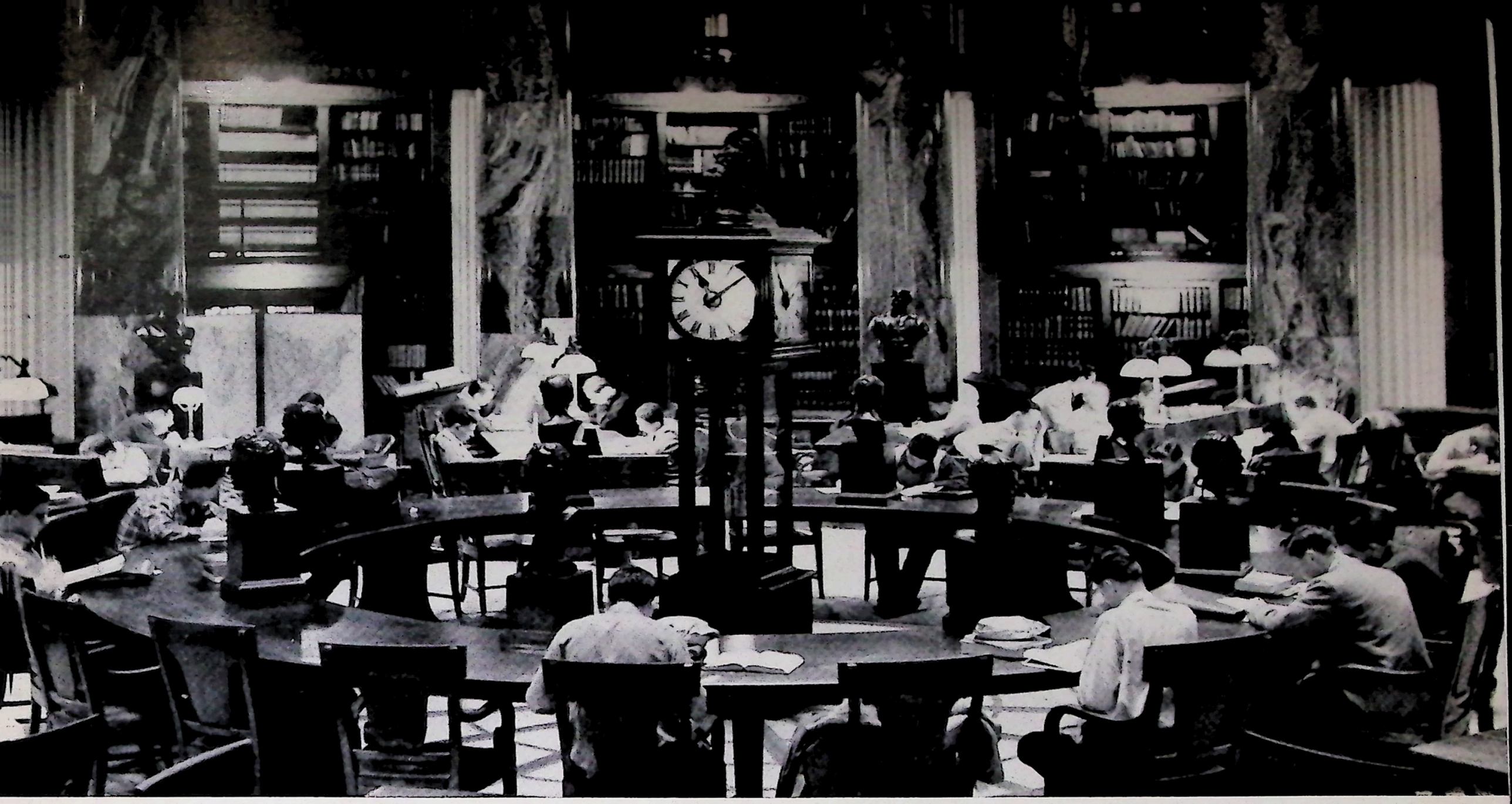
Persons differ in the kinds of things they remember easily. Some remember things they have seen better than things they have heard, while others may do the reverse. In good teaching, an attempt is made to present the material to the student in various ways: he reads about it in a book, he discusses it in classes, he looks at diagrams, illustrations, and motion pictures. In some courses he works with the material in field, laboratory, or shop. All these methods multiply the handles of association with which a person can grasp the required fact when need arises.

Instead of the complicated systems for improving the memory which have been exploited for commercial purposes, modern psychologists rely on a few simple principles. Of these the first is that repetition tends to fix associations. "Over and over again" is the best rule. But repetition is not sufficient. It is necessary to concentrate your attention upon what you are trying to learn. You cannot learn a poem if you are thinking of a baseball game. Interest in what you are learning is essential.

The difference between rote memory and logical memory brings forth several additional principles. Of these the first is that a good memory depends upon a wise selection of what is worth memorizing. Many people learn too many insignificant details. Selection, thinking, and perspective are as important in memory as in other phases of life. Of two men with an equal array of facts at their command, one may be much more efficient than the other, because he remembers the important and essential, while the other remembers the trivial and insignificant.

Perhaps the foremost principle of efficient memorizing is the principle of recall during memorizing. If immediately after reading, the student closes the book and tries to recall what he has read he will find his ability to retain much increased.

If you outline what you are learning, run it over in your mind, discuss it with a friend—in other words, *do* rather than merely *receive*—you will find your memory greatly improved, particularly if the practise is kept up. ♦



REFERENCE BOOKS-

KEYS TO KNOWLEDGE

from the Wisdom of Compton's Pictured Encyclopedia

EVERYONE asks questions and everyone likes to get the right answers. A quick way to get an answer is to turn to some person who knows the subject. A more certain way is to turn to books.

Books always have been and continue to be treasure houses of answers. Both fact and fiction books teach us things we have never known about people, places, and things. In this sense all books answer questions for us. The Reference Department of the New York Public Library regards all books in just this way. More than 3 million books are held there for use only in the building. With the help of the staff, people from all over the world use the collection. There, daily, hundreds of people find the answers they want, proving that the library deserves its nickname, The House of Answers.

Even though all books are in a sense answer books, some are written especially to answer questions. Such books are called reference books. Learning how to use them is an important part of education.

Some people specialize in this skill and after years of training spend their lives working as reference librarians. Many people assume that a reference librarian knows all the answers. He does not; but he does know where he will find the right answer. Questions reach the reference desk directly from people visiting the library, by telephone from homes and offices, and by mail. The librarian does his best to answer all questions correctly and quickly.

Few people need to know as much about reference books as a librarian. With some study and browsing anyone can learn how to use many of these books. Knowing where to look for the books and how to use them will usually lead to the right answer.

Most librarians agree that about 10,000 different books are regularly used for reference purposes. Many of these fall into groups. A simple grouping is: Encyclopedias; Dictionaries; Atlases and Gazetteers; Indexes; Handbooks and Manuals; Biographical Directories; Bibliographies; and Almanacs and Miscellany. A home

library should have at least one title in each of the first four groups. Many good books in all these classes are in all public libraries.

When one knows examples in each group, he has a key to the answers of many of the world's questions. Whether the questions spring from schoolwork or dinner-table arguments, from television quiz programs or just plain curiosity, answers can be found.

All good reference books have something in common. They are accurate. If a reference book gives the wrong answer frequently, it does not deserve to be called a reference book. The best reference books are those which give adequate, up-to-date information written in plain language without editorial opinion. *Authority* and *fairness* are two other important elements that are common to good reference books.

One point that has to be known in relation to all reference books is their *scope*. No book attempts to answer all questions. The good reference publisher indicates the scope of his publication. The publication should be judged adequate if it furnishes the information that should be found within those limits. The reader should not expect to find information in the field of mythology in a chemistry handbook. He should, however, expect to find the answers to chemical questions in that handbook.

Other important elements in reference books are *arrangement* and *readability*. The reader using a reference book expects to find a fact quickly. Well-arranged books let him do just that. Arrangement varies with the type of book. Dictionaries and encyclopedias are usually arranged alphabetically; atlases and gazetteers, by continent and country divisions. Statistical handbooks usually divide the tables by broad subjects and supplement them with an alphabetical index. Whatever the arrangement, it is good if it is simple, consistent, and easily understood.

It is equally important that the facts themselves be easily understood. No matter how much authority has gone into the preparation of a reference book, it is of little value if the material is not readable. The best reference works are carefully edited for both accuracy and ease of reading.

The well-made, attractive book is a pleasant book to use, and the elements of *design* and *format* are important in judging reference books. Illustrations are being used more and more to help explain the printed text. Pictures in black and white or in color, carefully selected and placed, add to the understanding of facts. At the right point in the text, a chart, diagram, or picture may save paragraphs of technical explanation. Words about distant places, discoveries, and processes many times come to life only when they are identified through clear maps, diagrams, or pictures. This wide variety of illustration, plus well-chosen and well-spaced type, good quality paper, and sturdy binding, contributes to the attractiveness and usefulness of the book.

Bibliographies in a reference book are of double importance. Primarily, these lists of source material indicate where the editors have found the facts which have gone into the book. In addition, they give tips to the interested reader as to where he can find more information. No reference book can be so adequate that it gives all the information every reader may want. As a result these reading lists are valuable in guiding the reader to additional information.

Many people think of encyclopedias as the only reference books. To a degree this is correct because as a group encyclopedias are the most important reference tools. No library can get along without recent editions of the better sets. Families that own an encyclopedia find that most of their questions are answered from that single source.

By its definition an encyclopedia includes in a single publication knowledge of importance to man in many different fields. In the best encyclopedias this information is presented in articles of various lengths, arranged alphabetically by subject and supplemented with a careful, detailed index. Because of the range of man's knowledge today the great encyclopedias extend to many volumes. There have been a few attempts to present one-volume encyclopedias but these have proved of limited use.

The preparation of a good encyclopedia involves years of hard work on the part of hundreds of people. Scholars in a wide variety of subject fields prepare the original articles. Editors rework those articles to fit the style and pattern of the encyclopedia. Librarians and research workers recheck the accuracy of the facts. Artists and typographers work closely with the material to determine the final design of the volumes. Indexers comb the articles for major subject material and significant small facts. These are then pointed out for the benefit of future readers through short entries in the alphabetical index.

If throughout this labor of preparation the highest standards have been maintained, the publication deserves the title of "encyclopedia." Even after publication the publisher's responsibility continues. In successive printings, new facts, ideas, and theories deserve places in the set. To keep the encyclopedia up to date the best publishers have arrived at the practice of continuous revision. This means constant rewriting and reillustration of articles to record fresh knowledge. Comparison of two editions of the same encyclopedia easily shows how carefully such a revision program has been followed.

Even when encyclopedias contain many of the wanted answers, those answers are most available to people who have learned how to use the books properly. The best way to learn how to use an encyclopedia, and a good way to judge the quality of it, is simply to practice with it. Select an interesting broad subject. With the aid of the index and cross-references, track down all the information in the encyclopedia related to that subject.

If the search proves to be an easy and productive one, the encyclopedia can be regarded as a good reference work. If in such a search the reader fails to find all the information easily or runs into blind alleys, the value of the encyclopedia is lessened.

Encyclopedia indexes vary; some are in a single volume, while others are a part of each volume of the set. Good indexes carefully collect all references in the set under subject headings, with simple directions to volume and page numbers.

The style of cross-references in encyclopedias also varies. One kind, a "see" reference, directs the reader to that point in the set where he can find the information he wants. The other kind, a "see also" reference, directs the reader to related material in the set.

In practicing with any encyclopedia these variations become familiar. At the end of the search the mechanics of the set are learned, and it will be easier to use that encyclopedia the next time.

The idea of an encyclopedia dates from man's first thought about recording and passing on knowledge. The word itself comes from an ancient Greek word meaning the "whole circle of knowledge." The work generally considered as the first encyclopedia is Pliny's 'Natural History', compiled during the first century. In 37 volumes Pliny presented some 20,000 facts gathered from 2,000 books written by 100 authors.

The first English language encyclopedia was published in 1481 by the famous printer William Caxton. It was a translation from the French and appeared in English as 'Myrrour of the World'. Credit for first using the word encyclopedia as a title goes to Johann Heinrich Alsted, a German, for his work under that name published in 1630.

The first alphabetically arranged reference work in English was written by John Harris. It was published in 1704 under the title 'Universal English Dictionary of Arts and Sciences'. Inspired by this work, Ephraim Chambers published in 1728 his 'Cyclopaedia or an Universal Dictionary of Arts and Sciences'. This publication is

historically important for three reasons: it was the first to emphasize the use of many authorities as contributors; it introduced cross-references; and, most important of all, it served as the inspiration for the great French 'Encyclopédie'.

John Mills, the English political scientist, started the translation of the Chambers' encyclopedia into French. After an argument with the publisher, he withdrew from the project and the work was turned over to Diderot. Under Diderot's direction, such men as Voltaire, Rousseau, d'Alembert, and Montesquieu contributed to the 'Encyclopédie'. This 28-volume set and supplements were published from 1772 to 1780. The revolutionary spirit of the period was reflected in many of the articles. Judged by modern standards of fairness and accuracy, the encyclopedia was not a good one. It was important, however, because of its influence, and it became recognized as the first great national encyclopedia.

The greatest national encyclopedia and the one with the longest publishing history, 'Encyclopaedia Britannica', started publication in December 1768. With its ninth edition, completed in 1889, encyclopedia making reached a new peak in scholarship. The quality of this edition led to world recognition of "Britannica." Edited and published in the United States since 1920, this encyclopedia has in recent printings been to a degree Americanized. It is no longer considered by the British to be their national encyclopedia.

The American encyclopedia with the longest continuous publishing record is 'The Encyclopedia Americana', which dates from 1829. The most recent of the good American adult sets is 'Collier's Encyclopedia', first published in 1949.

Notable American contributions to encyclopedias have been made in the school and young people's field. John Newbery's 'Circle of the Sciences' (London, 1745), may be regarded as the first attempt to publish a children's encyclopedia, but it is in the United States that such encyclopedias have been developed. One of the earliest was the two-volume 'Student's Cyclopedia', first published in 1893. In 1912 it was purchased by Frank E. Compton. The need for and success of that publication led to the planning and publication of 'Compton's Pictured Encyclopedia'. First issued in 1922, it has been continuously revised with a new edition each year since that date.

Compton's has made many contributions to good encyclopedia practices. Probably the most important of these is the emphasis on illustrations. Although pictures had been used even as far back as 'Orbis Pictus', published in 1657, no encyclopedia has ever before included so many and such a variety of illustrations. Beginning with the first edition in 1922, well-chosen illustrations, closely related to the text, have been a feature of Compton's.

A second major encyclopedia idea, the Fact-Index, also dates from the first edition. A new dimension was added to the old art of indexing by including in the index brief factual paragraphs as well as the more conventional index references to the text.

The third major contribution made by Compton's first appeared in the 1932 edition. Previous to that publication, encyclopedias had used the "split-letter" arrangement of volumes—A-ANA, ANA-BAD, and BAD-CAD—to indicate what articles could be found in each volume. The innovation was the "whole-letter" idea. To make the use of the encyclopedia much easier, all the articles beginning with a single letter, as well as the Fact-Index entries beginning with that letter, are collected in a single volume. The result is the now familiar pattern of the backs of the volumes—A,B,C, and DE.

Everyone uses dictionaries to check spellings, pronunciations, and meanings of unfamiliar words. But few people realize the wealth of information in this type of reference book. A dictionary can be defined as an alphabetically arranged list of words with meanings. Four kinds of dictionaries are found in libraries: English language; supplementary language; foreign language; and subject dictionaries.

Good dictionaries are available today at all reading levels. Some of the simplest ones have been prepared for the early elementary grades in school. The largest ones are the unabridged works which are usually found in libraries and are constantly consulted because of their authority in relation to correct word usage.

The shorter, or desk, dictionaries today are not limited by the old idea of including only the "hard" or "good" words. They are constructed on the scientific basis of frequency of usage. This idea, promoted in the word list studies of Dr. Edward L. Thorndike, is based on actually counting how often words are used in everyday writing. Those words used most often are included in the desk dictionaries. Only the unabridged dictionaries are compiled without considering frequency of usage, but even these do not include many technical and obsolete words. The standard unabridged dictionaries include roughly 400,000 words. Desk dictionaries seldom include more than about 125,000 words.

All these dictionaries supply a great deal of information about each word. The word itself is correctly spelled, divided into syllables, and marked to show an acceptable pronunciation. The source of the word is indicated and its part of speech identified. Several meanings of the word are listed in the order of usage. Synonyms and antonyms are often supplied, and many of the words are illustrated by drawings.

Smaller than the two kinds of dictionaries already described are the high-school dictionaries. These usually include 45,000 to 70,000 of the more common words. Next are the intermediate dictionaries, which may include 30,000 to 40,000 of the most commonly used words. At the most elementary level is the primary dictionary, with fewer than 5,000 words. In these the words are explained through pictures or through use in simple sentences.

The dictionaries known as supplementary language dictionaries serve different functions. They deal with special phases of language. A good example is a usage book, P. G. Perrin's 'Writer's Guide and Index to English'. It answers questions about punctuation, spelling, paragraphs, sentences, and grammar—answers not usually found in the ordinary dictionary. Another important supplementary language book is the handbook of synonyms. It gives shades of differences in meaning among words which mean approximately the same thing. The most famous is P. M. Roget's 'Thesaurus', which is arranged by ideas. The use of this kind of book can add color to writing and helps to avoid monotony in word choice.

Still other language reference books are devoted to abbreviations, rhymes, slang, and technical and foreign terms. Any good library collection includes these and many others, compiled to help answer whatever language questions may be asked.

By definition an atlas is a collection of maps published in one volume. The atlas group includes the widest variety of publications. An atlas in its simplest form may be pocket size, providing road or street directions. In its most elaborate form an atlas is large enough to need a reading stand to support it. The wealth of maps in large atlases presents the known geographic facts of the current world.

The word "atlas" to describe a collection of maps originated when one of the early collections included as decoration for the maps the figure of the giant Atlas supporting the world on his shoulders. Probably it was the Flemish geographer, Gerhardus Mercator, who first used the word for a collection of maps he began in 1585 and his son completed in 1594.

Good atlases usually include one hundred or more individual maps. These are usually presented in geographic sequence, with maps covering the whole world first, followed by maps arranged by continent, country, region, and smaller areas. A gazetteer index is frequently added to the atlas. This helps to locate places on the maps quickly, gives populations, and provides information about points of interest. ♦

WHAT IT MEANS TO BE A MATURE PERSON

from the Wisdom of Compton's Pictured Encyclopedia

THE mature person is fitted for happy and effective living. In his business, in his social life, and in his home he makes good adjustments. He does not owe his fortunate personality to some inborn physical or mental strength. He is mature because he has had the right training in childhood and because he wants to behave in a mature way.

Each group and each nation has its own standards of mature behavior, and individuals are judged by those standards. Most primitive peoples train their children for adult life. Most civilized nations also emphasize such training in the home and in the school. As a result, these young people are ready to assume the duties as well as the privileges of adulthood. American parents, by contrast, emphasize a happy, carefree childhood and hope that their children will somehow be able to shoulder adult burdens when they reach adult age. The rising rates of divorce and of juvenile delinquency challenge this hope. From business and industry also come reports of poor adjustments made by young workers.

Criteria for maturity have been established in seven different areas—physical, intellectual, emotional, social, psychosexual, moral, and religious. These criteria are based on observations of people and not on armchair speculation. The mature person is mature in *all* these areas. Suppose, for example, that a man shows the same unreasonable jealousy of women that he showed in his high-school days or has temper tantrums like those of his preschool days. He may be mature in all areas except the emotional; yet he cannot expect to get along well in his business, social, or home life.

Although there is no such thing as *partial* maturity, no one is equally mature in all areas. Even the most mature person will at times go back to adolescent or even childish behavior. Most of the time, however, his behavior is mature. He is careful to display immature behavior at times when he will not be seen by those whose esteem he is especially eager to win.

For persons of average intelligence, mental development reaches its mature level between the ages of 13 and 15. For persons of superior intelligence, the mature level is not reached until some time between the ages of 16 and 25. Persons of inferior intelligence reach the mature level early, some before the age of nine. Intellectual maturity is judged by the use a person makes of the intelligence he has, not by the degree of his mental development.

With increasing age, there should come a change of interests. The intellectually immature person is interested mainly in himself, his problems, and in things that normally interest people much younger than he. His interests are changeable like a child's, so that one never knows from day to day what they are. The mature person is interested in other people and in adult activities and studies. Furthermore, his interests remain stable over a period of time. The intellectually mature person is not easily swayed by what others say and do. On the other hand, he is not rigid in his thinking and he changes his attitudes when it becomes apparent that they are narrow, biased, or incorrect. Immature attitudes stem from feelings of insecurity.

Superstitions are unfounded beliefs passed down from one generation to another. The mature person is skeptical of any statement founded on no more solid basis than that it has always been believed.

Realistic self-appraisal likewise characterizes the intellectually mature person. He recognizes his shortcomings and tries to overcome them but does not apologize for them. He also knows his own abilities and tries to put them to the best possible use. The intellectually immature person, like the child, cannot appraise himself realistically. He sees himself as he would like to be or as his parents, teachers, and friends think of him. To hide his shortcomings he uses escape mechanisms, such as daydreaming, imaginary invalidism, or projection of the blame on others.

Immaturity is more apparent in the emotions than in any other area of behavior. Children can be trained to harness their emotional energy and put it to good use. It is a mistaken belief that such training means repression.

The emotionally mature person does not give violent expression to fear, anger, jealousy, or even happiness. He expresses his emotions in *partial responses*. He substitutes a smile for loud laughter, a frown for fighting, and a look of concern for childish horror. He is capable of bearing emotional tension and great stress. He waits for a suitable time and place to express what he feels. In private he may give vent to some of the emotions he controlled in public, but this is usually unnecessary because he is not easily stirred up. He asks himself: Is this worth getting upset about? Did he mean what he said as it sounded, or am I reading meanings into it? Does her interest in someone else really mean lack of interest in me? By this critical assessment he discovers that a situation he was tempted to respond to emotionally is not worth the effort.

Adolescents and the immature have a tendency to swing from one mood to another for little or no reason. The emotionally mature person is free from moodiness. He is also free from sentimentality, although he is not lacking in love, patriotism, or loyalty to family and friends. He simply does not allow his sentiments to sweep him off his feet. A socially mature person gets along well with all types of people in all types of situations. He does not necessarily like or respect all people, but he is tolerant and understanding and does not intentionally hurt anyone's feelings. Nor does he discriminate against people because of their race, religion, national origin, or their social and economic status.

The child and the adolescent often act as if they own their friends. The socially mature person does not demand the exclusive attention of his friends, nor does he show jealousy of their other friendships. His affection, however, is strong and lasting because he does not become completely disillusioned when he sees a flaw in a friend's character. While he may prefer companionship to solitude, he can amuse himself and be happy when alone.

The socially mature person is emancipated, or psychologically weaned, from his childhood home. Even though he may still live with his parents, he makes his own decisions. The socially immature person cannot live happily either with his family or away from them. He finds fault with everyone and everything in his home and rebels against any suggestions his family makes. He craves attention and indulges in attention-getting behavior, such as complaining about his poor health and feeling sorry for himself. He is likely to seek the company of older people who play the role of parent-substitutes and may show exaggerated affection for an older person of the same sex.

The person who conforms slavishly to group standards, through fear of social disapproval, is socially immature. So also is the unconventional extremist who seeks to gain attention by being obviously different. The socially mature person accepts the patterns of his group. He does not do this through fear of group opinion or even because he necessarily approves of the patterns. Rather, he realizes that each individual must be willing to merge his personal interests into the approved patterns.

In a democracy, government is by the people. A mature citizen does not, therefore, limit his part in the government to paying taxes, voting, and obeying the laws. He recognizes that everyone has responsibilities to his town or city, his state, and his nation. He accepts appointed or elected offices, fights for his country in time of need, and takes positive steps to bring about reforms when he sees they are needed.

Psychosexual maturity relates to attitudes and behavior in relation to sex and to members of the opposite sex. Whether a person is psychosexually mature or immature depends largely upon the type of sex education he has had and upon the attitudes of his family and friends. The immature person's attitudes may change, however, if his experiences with the opposite sex are favorable. The mature person regards sex as a normal function of life and is neither frightened nor shocked by it. The immature person is likely to be prudish or to show an unusual interest in sex.

In childhood, antagonism between the sexes is common. Boys feel superior to girls and treat them accordingly. Girls retaliate by calling boys "crude" and "rude" and by scorning boys' activities, yet secretly wishing they could be boys. When these attitudes persist, the person is regarded as psychosexually immature. The mature person accepts persons of the opposite sex as equals and is able to work and play comfortably with members of both sexes.

A morally mature person realizes that no one can be a law unto himself. He therefore accepts the moral code of the group to which he belongs even though he may not agree with it. He will not be influenced to do things he knows are wrong when he is with people who have lower standards. His moral code is stable.

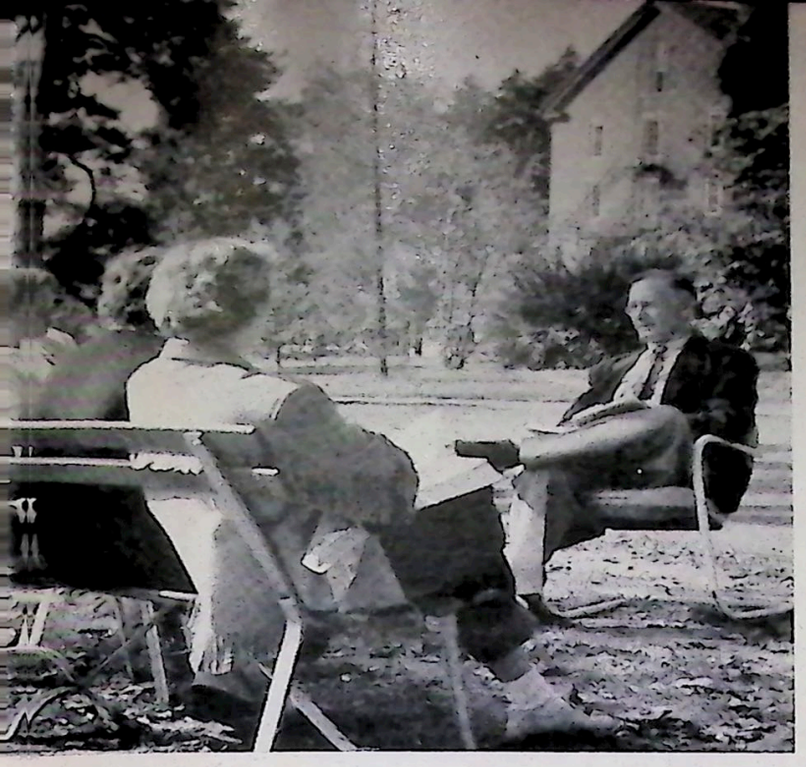
The mature person will accept the beliefs of his religion and fit them into his other beliefs. He will make use of them in his daily life. He will not regard prayer as a means of winning material possessions or of getting out of a predicament. Nor will he reject prayer as useless because many of his childhood requests went unanswered. Instead, he will accept prayer as something to help him and will pray when he feels the need for it.

The religiously mature person will not attend church because of fear or force of habit but because he receives some personal benefit from the service. He will take an active part in both the religious and the semireligious affairs of his church because he regards such participation as one of his duties as a good citizen.

Religious tolerance is one of the outstanding qualities of the person who is truly mature. He realizes that other faiths mean as much to other people as his own faith means to him. ♦

One of the most influential intellectual groups of the day, Samuel Johnson's Literary Club members were entertained frequently by the famed portraitist, Sir Joshua Reynolds, an intimate of Johnson. His guests were usually "Johnsonians," as below (left to right): Boswell, whose account is unusual; Johnson, Reynolds, Garrick, statesman Edmund Burke, Pasquale Paoli, an exiled Corsican revolutionary, music historian Charles Burney, poet-laureate Thomas Wharton and novelist Oliver Goldsmith.

Wise conversation is the last flower of civilization.—EMERSON.



Conversation is our solace, our inspiration, and our most rational pleasure.—AGNES REPLIER.

THE ART OF CONVERSATION

from the Wisdom of Compton's Pictured Encyclopedia

FOUR thousand years ago, schoolboys in Egypt were copying maxims on conversation from a book called 'The Instructions of Ptah-Hotep', preserved today in the Bibliothèque Nationale in Paris. It is spoken of as "the oldest book in the world," for it was composed sometime between 3000 and 2500 B.C., by a high official of the Egyptian government. So we know that long, long ago people realized the importance of conversation, and that studying the technique of conversation is nothing new.

Talking has been one of man's chief occupations and one of his most significant activities. History has been made at conferences; chance remarks have founded lifelong friendships; and from conversation has come inspiration for great achievements. Conversation is the means by which we draw near to one another with sympathy and pleasure; it is the basis of our social activities. It is no wonder then that those adept at conversation have always had an advantage in life.

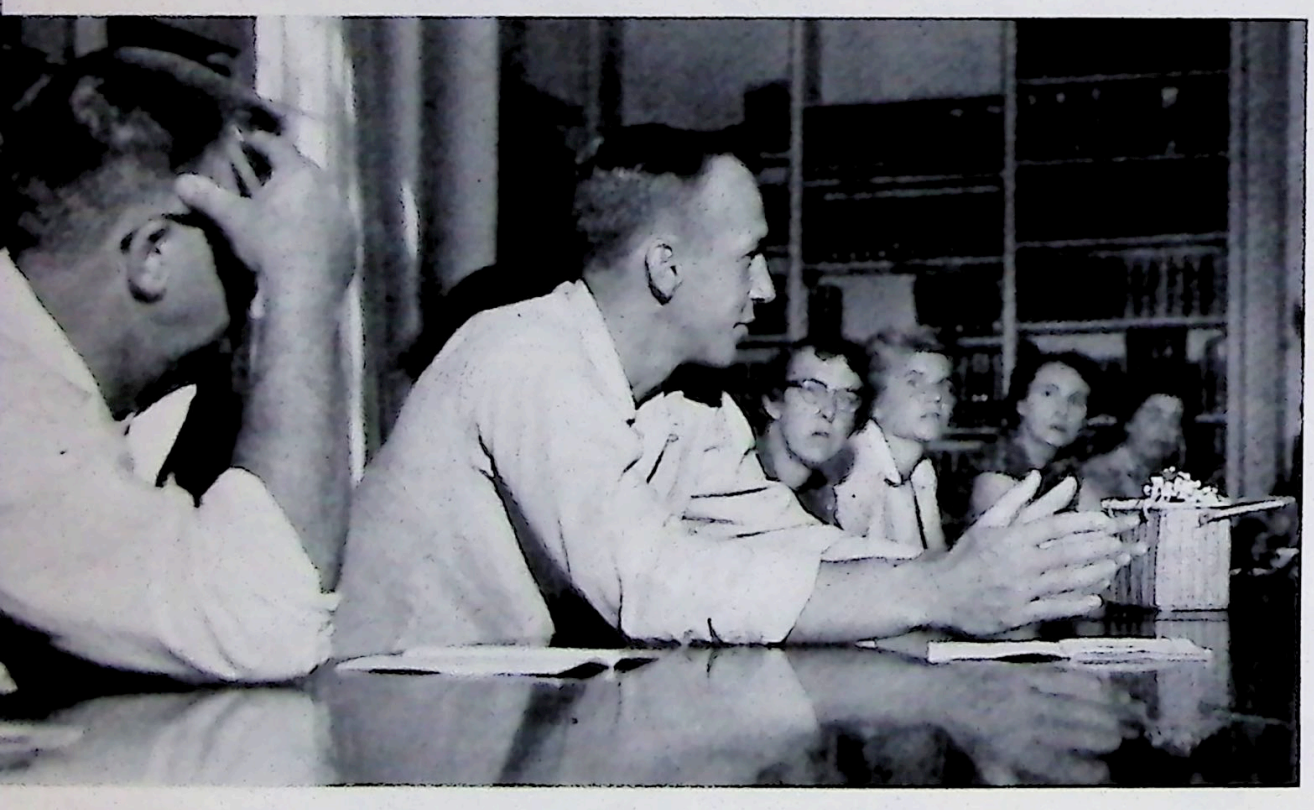
A person's character and tastes are revealed by his conversation. And so it is with peoples. The more civilized a nation is, the higher the level of its conversation.

The ancient Greeks excelled in conversation, and the greatest talker of them all was the philosopher Socrates, who taught his followers to think by conversing with them. His most famous pupil, Plato, recorded some of his supposed conversations, and we can read them in 'The Dialogues' of Plato.

In London in the 17th century, the coffee houses were centers of intelligent and witty conversation, particularly Will's Coffee House in Covent Garden, where the poet Dryden and his literary friends gathered.

This reputation of the London coffee houses was carried on in the succeeding age by Dr. Samuel Johnson and his companions. These included such distinguished men as Goldsmith, poet and author of 'The Vicar of Wakefield'; Edmund Burke, the statesman; Sir Joshua Reynolds, the portrait painter; David Garrick, the actor; and Sheridan, the dramatist. Of the men and women who live in fame today chiefly because of their unusual ability as conversationists, Dr. Johnson is the most widely known. Few read

Talk, which is the harmonious speech of two or more, is by far the most accessible of pleasures. It costs nothing in money; it is all profit; it completes our education, founds and fosters our friendships, and can be enjoyed at any age and in almost any state of health.—R. L. STEVENSON.



A single conversation across the table with a wise man is better than ten years' study of books.—LONGFELLOW.

Johnson's books now, but all who read at all know about his remarkable talk as it is recorded in Boswell's 'Life of Johnson'.

However, conversation is generally considered to have reached its zenith in 18th-century France. At the houses of various talented women in Paris, leaders in art, science, philosophy, politics, and literature assembled regularly for dinners, suppers, or receptions and engaged in brilliant conversation. The hostesses, instead of dominating the conversation, encouraged their guests to talk freely —which is the art of every good conversationist. These salons, as the gatherings were called, exercised great influence on the political and literary history of the time.

Much has been written on the art of conversation, and it is interesting to see how much alike the thoughts about it have been through the centuries. Nearly all commentators have stressed the difference between great talkers and great conversationists. Irrepressible talkers kill conversation and exhaust a company. Macaulay, the historian, is often mentioned as an example of one who never learned the important art of listening. The poet Coleridge was another man who sometimes monopolized talk. There is a story that he once "buttonholed" a friend and began talking with his eyes closed, as was his custom. The friend, having to leave, quietly snipped off the button with his knife. When he returned, hours later, he found that Coleridge was still talking.

In addition to lecturers like Macaulay and monologists like Coleridge, there is another overtalkative type—the rambler who remembers all and tells all, only forgetting what he started out to say. The perfect example is Miss Bates in Jane Austen's 'Emma'. Mrs. Nickleby in Dickens' 'Nicholas Nickleby' is another whose thoughts jump aimlessly about like grasshoppers. "Parrot-talkers" have a stock of tried remarks for all occasions. Two centuries ago, Swift wrote a satire made up of remarks guaranteed to have been in use for a hundred years or longer. Even today, many are still using some of these expressions.

The best talkers of all ages appear to have had lively affection for and a warm interest in their fellow creatures; a curiosity about the world in general (not a petty curiosity about people's affairs); some powers of observation and reflection; respect for their own opinions and tolerance for those of others; and tact, which comes from ready sympathy and quick thinking. And they talked for the fun of it, not to show off their knowledge.

Of course, the talker needs a fund of information. But you can get interesting topics to talk about by watching ants or listening to children at play, as well as by reading magazines, newspapers and books.

Finding out a great deal about one thing is helpful, because a person usually talks well about a subject he knows. That is why having a hobby may make one a better talker.

To be an interesting talker, you also need the ability to see the humor in everyday incidents and to tell about them in a way that will amuse others. Amusing things occur around you constantly—in the street, the bus, the yard, the schoolroom; you have only to observe them to have diverting stories to tell. In biographies and elsewhere in your reading, you will come across anecdotes that may enliven conversation. But remember that the champion joke-teller is a pest. Jokes help to season conversation, but like any seasoning, they are not good for a steady diet.

Kindliness is the basis of the most pleasing humor. Sarcasm, the kind of humor that bites, had best be avoided. It was good nature that led Thackeray to make a very witty remark to a political opponent in an election. "May the best man win!" his rival said. "Oh, I hope not," Thackeray replied. The wit that it is wisest for all of us to cultivate is the wit for which Mlle. de Lespinasse, a famous French hostess, is remembered—that of saying to each person what was suited to him.

There you have the secret of a good conversationist's success. He thinks about his hearers. He has a warm heart as well as a clear head. Instead of parading himself, he tries to build a bridge of friendliness between himself and others. Such a person may lack the brilliance to become a famous talker, but he will be popular in any circle.

To get others to talk well is a high art. A. C. Benson tells in his essay on 'Conversation' how his mother did this. When she was with people, she showed them at once that she cared what they thought and wanted to know what they were really like. "People became suddenly interested in themselves," her son adds, "because of the charm of finding themselves so interesting to her." This kind of social unselfishness is at bottom good breeding. Courtesy is the basis of good conversation, as it is of all attractive behavior.

"He laughed like the screech of a rusty hinge," James Whitcomb Riley said of one of the "Nine Little Goblins" when he wanted to indicate how frightful the creature was. Most people are repelled at once by a harsh, loud, or shrill voice, just as they are charmed by a gentle, low-pitched, mellow one.

Lazy jaws that open only far enough to let out a few stifled sounds cause some of the blurry voices you hear. Straight, tight lips give the voice a flat, metallic sound. It is easy to learn to round the lips in speaking and so to avoid such cramping of the vowels as "fer yer," "jist," and "wuz."

A good voice must have the help of good speech, whose twin handmaidens are clear enunciation and correct pronunciation. Poor enunciation—jumbling words together, racing them off the lips, or drawling them out boresomely—suggests lack of self-respect and thought for one's listeners. "Cantcher," "'Mgonna see'uh moom pitcher," "C'lina," "runnin'," and "pepperation" (for preparation) are instances of the slovenly enunciation that mars conversation.

Pronunciation is settled by usage and recorded in dictionaries. It is well to check up now and then on old words as well as to look up new ones and any words you hear given a different pronunciation from your own. Even common mispronunciations like "longjeray" for lingerie and "raddiator" for radiator are not excusable.

One of the best ways to improve your conversation is to be accurate in word use. Interesting, effective talkers avoid such common errors as "party" for one person, "aggravating" for provoking, and "balance" for rest or remainder. The worst word-abusers, though, are those who work a few words so hard that they cease to have any meaning left.

How many times a day do you use "awful," "nice," "grand," and "terrible"? Do you ever think what the words really mean? A slang expression that just fits an occasion and is not stale may enliven talk, but we suspect a dull or sleepy mind when someone habitually responds, like a mechanical doll, with "Yeah?"; "You're telling me!"; "So what?"; "That's swell"; or "Okey doke." Increase your vocabulary, and you will not be tempted to use hackneyed and tasteless expressions. Reading, listening to people who talk well, and noting down and looking up new words will give you a command of speech that will serve you well. And so will observance of the rules for good English. Conspicuous grammatical mistakes are to a speaker's personality what dirt spots are to a shirt or dress.

"What shall I talk about?" is a question that perplexes many. The best rule is to think about the possible interests of the person or persons with you and not fret about the topic. Or speak of something that interests you.

Concern yourself with making your companion feel comfortable; the subject does not matter much. A good way to get a conversation started is to think back to what your companion was talking about or doing when you saw him or her last, and take that as your lead. "Did you enjoy the trip to Minnehaha Falls?" "Have you finished your airplane model?"

Once a conversation is launched, it is give and take. Each person talks a little, then listens as another takes his turn. You may not care about building airplane models, but you can get pleasure from a friend's enthusiasm as he tells of constructing one. Presently a subject you both like will come up, and your exchange of ideas will kindle new thoughts. And you can always learn something that will entertain or profit you if you get another to talk his best.

The highest courtesy we can pay a speaker is to listen attentively and respond politely. A compliment that always pleases is to ask a person to continue after an interruption—"What were you going to say?" "Won't you finish your story now?" Other conversational courtesies are these: changing the subject if it appears not to interest others or they have tired of it; avoiding any exchange of looks or mention of a subject that may embarrass someone present: readiness to laugh at others' jests; and speaking to any one who seems to be left out of the talk.

"Aw, you never," or "I don't believe it," you may have heard an ill-mannered boy say after a story was finished. Rude, we all agree. But so is correcting a speaker for some small inaccuracy. "It took us five hours to get there," a hiker says. "No, you mean five and a half," a comrade prompts him, though the precise time does not matter. Another discourtesy is asking questions people may not want to answer: "What did that cost?" "Doesn't your father live at home?" "What grade did you make?"

Differences of opinion help to make conversation lively, but quarrelsomeness is ill-bred; and even quietly arguing your point too long is poor taste. Taking offense at a person who holds a different opinion from yours is childish. In his 'Autobiography', Benjamin Franklin tells how he improved his contacts by learning to be tolerant of others' opinions:

When another asserted something that I thought an error, I denied myself the pleasure of contradicting him abruptly . . . and in answering I began by observing that in certain cases or circumstances his opinion would be right, but in the present case there appeared or seemed to me some difference. I soon found the advantage of this change in my manner.

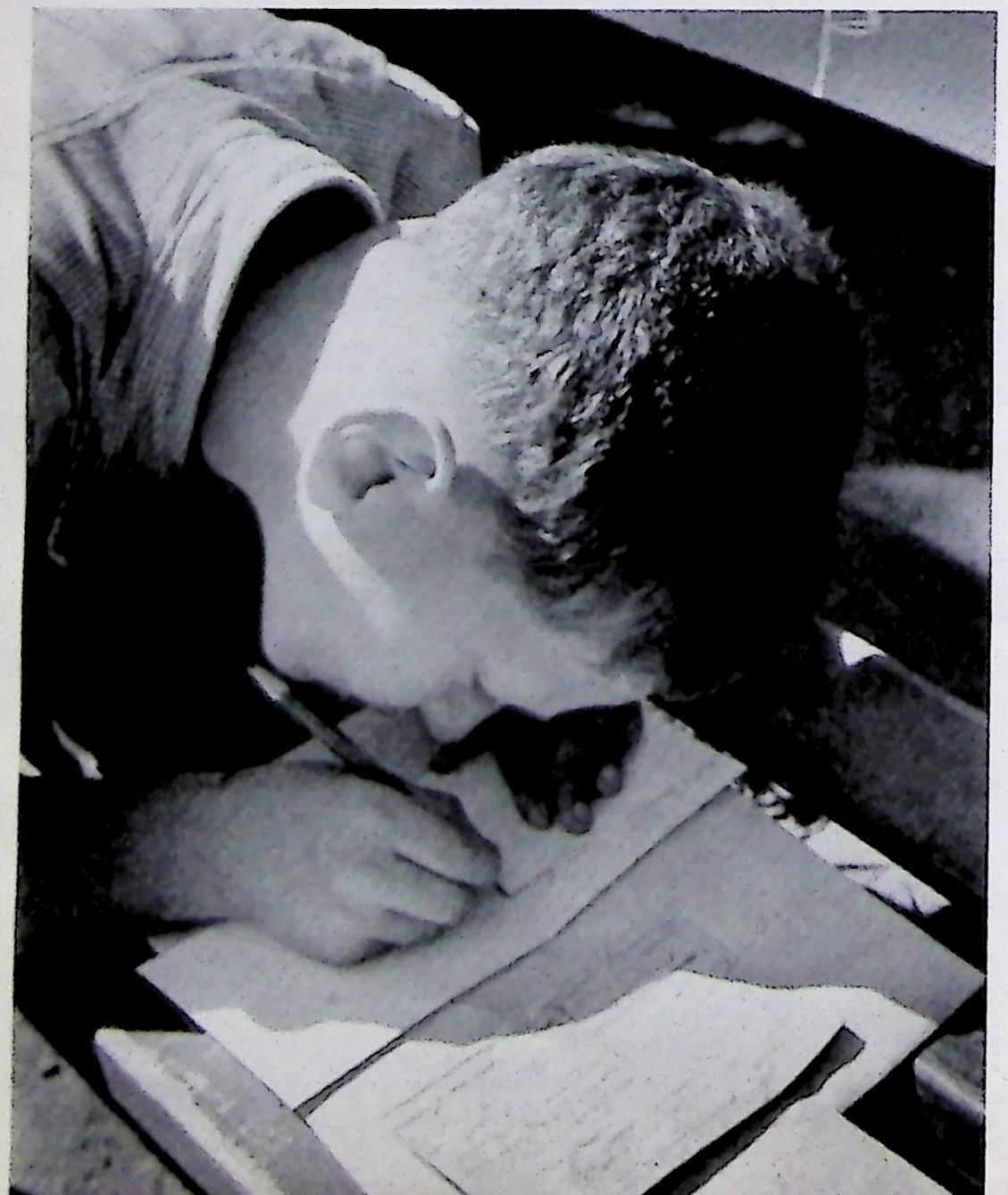
Cultivate this attitude of good will toward new acquaintances, and you can outgrow shyness. Think of meeting a stranger as a chance to have a good time, to make a friend, and to be one. Look with a smile directly into the other's eyes when you are introduced, and shake hands with a firm, friendly clasp. This good start will give you confidence.

Don't feel that you must be in a hurry to say something (you may politely wait for an older person to open the conversation); but don't hold back, hoping to think of something important to say. Say what comes into your mind; its naturalness may put you both at ease. Above all, don't drop your head or gaze at the floor as if you had something to be ashamed of. Hold your head and chest up, and you will feel more assurance.

If we were to assemble a few precepts on conversation, they might be these: Like people and learn to be interested in them; be kind, sympathetic, and sincere. Observe your listeners' facial and bodily expressions to see how they are taking what you say. Talk with people and not to them. Try to keep the conversation within the understanding and enjoyment of everyone taking part. Read books and study people; cultivate broad interests and keep yourself well informed. Try to see things for yourself, as if you had never heard what anyone else thought or said about them. Don't be too serious; enjoy the little incidents of every day as well as the big occasional events. These principles are consciously or unconsciously followed by the people who are good conversationists and are said to have charm and personality. ♦

HOW DO YOU SPELL IT?

from the Wisdom of Compton's Pictured Encyclopedia



A GREAT deal has been said about the difficulties of English spelling--much of which is not true. Learning to spell, of course, like everything else worth while, requires effort. But it need not be a bugaboo. Everyone can learn to spell if he goes about it in the right way.

The best type of spelling book not only makes its selection of words by a comparative study of the lists and scales of the investigators but it *organizes* these words according to scientific pedagogical principles. Derivative forms are grouped so that pupils come to see the system by which they are built up. Homophones are presented first in illustrative phrases or short sentences. Words phonetically similar are brought together, so as to make use of the principle of association. By such means the number of separate facts that must be learned is reduced.

Many have said that English is not a phonetic language, that is, it is not spelled as it is pronounced. Let us look into this statement. Investigation shows that some 22 per cent of the words in common use are non-phonetic, but that leaves 78 per cent that are spelled as they sound and are pronounced as they look. An authority on word study calls attention to the fact that "six of every seven syllables of our language are phonetic." Such difficulties as there are, then, must lie in the 22 per cent non-phonetic words, and with the one syllable out of seven.

Now we might make a list of non-phonetic words (words that look one way and sound another), so that we would not have to waste our time on words that are easy to spell. But to make such a list is not so simple as it might appear. For in that list we want only the words that we actually *use*.

Each of us has three vocabularies: one for reading, one for writing, and one for speaking. The first is decidedly the largest. We understand in our reading many more words than we use. It has been estimated that the average person can read and understand between 8,000 and 10,000 words. Our writing vocabulary is not more than half as large; from 4,000 to 5,000 words are enough for all the writing we are likely to do. Oddly enough, though most of us speak many hundreds of words for each one that we write, the actual number of different words we use in speech is small, not more than 700 on the average. It is said that the average talker makes only 43 words do duty for half his ordinary conversation, using these 43 words over and over again. They are: and, be, have, it, the, to, will, you, about, all, as, at, but, can, come, day, dear, for, get, go, hear, if, in, me, much, not, on, say, she, so, that, these, this, though, time, we, with, write, your, her, one, of, by. What a difference between the ordinary person and the scholar! Woodrow Wilson used, it has been found, 6,200 different words in 75 of his speeches, but at least 60,000 in his writings.

To compile a scientific spelling list we evidently need to separate our writing from our speaking vocabulary, or, in other words, to find out just what words we use in writing. Elaborate investigations have been made to discover what are the common words in the writing of school children and of adults. The results of these investigations appear in the Jones list, the Thorndike list, the Ayres scale, the Iowa scale, the Commonwealth list, and several more, giving us the "commonest words," grouped as the "first thousand," "second thousand," and so on up to 10,000. While no one of the several investigations has given us a list which we may regard as final, a composite list made up of the words that are common to a majority of these lists and scales may be accepted as a writing vocabulary approximating that used by the majority of people.

It is economy of time to learn the spelling, pronunciation, meaning, and use of a word all at the same time. One of the serious mistakes of schools in the past was that they required pupils to spell words which were altogether beyond their understanding. The practise of the modern school is different.

Some of the investigators have carried on tests to determine the relative spelling difficulty of the "commonest words," and have made groupings to indicate the school grades in which they should be learned. The following list of 100 is widely cited as the most difficult of those in ordinary use:

which	writing	ready	choose	very
their	heard	forty	tired	none
there	does	hour	grammar	week
separate	once	trouble	minute	often
don't	would	among	any	whole
meant	can't	busy	much	won't
business	sure	built	beginning	cough
many	loose	color	blue	piece
friend	lose	making	though	raise
some	Wednesday	dear	coming	ache
been	country	guess	early	read
since	February	says	instead	said
used	know	having	easy	hoarse
always	could	just	through	shoes
where	seems	doctor	every	tonight
women	Tuesday	whether	they	wrote
done	wear	believe	half	enough
hear	answer	knew	break	truly
here	two	laid	buy	sugar
write	too	tear	again	straight

An examination of these words shows that one-third of them are *homophones* (words that are sounded alike but spelled differently, such as, *there, their; two, too*). It is obvious that we cannot spell any homophonous word until we know which one of the pair or group it is; that is, we must know its meaning.

The other difficulties in English spelling are due chiefly to the confusion in the formative days of the language between the phonetic standards of Anglo-Saxon and Norman-French; in part to the retention of old spellings after pronunciations had changed; to the introduction of new spellings based on mistaken analogies and etymologies; and to the borrowing by English from every other language.

The first step in seeking to know a word is to *see* it exactly. Much, perhaps most, of misspelling is due to *half*-seeing words. The second step is to pronounce the word precisely as it should be pronounced. If you say the word correctly, you will not write *prespiration* for *perspiration*, nor *suprised* for *surprised*. You must form two images of the word—the visual (the *look* of it) and the auditory (the *sound* of it—)and these two images must be closely associated in your mind. Next, center your attention on the critical point in its spelling by asking yourself, "What is the particular thing to remember about the form of this word?" The only difficult point about the word *thumb* is the silent *b* at the end. Fix your mind on that, connecting it with such words as *climb, comb, lamb*. You will never forget how to spell *separate* if you associate it with *parade*, which has the same Latin root. Then analyze the word: separate it into its parts; put together the meanings of these parts to see just what the word originally meant, or literally means; try to explain how the present or derived meaning comes from the original meaning. For example, take the word *conductor*. The dictionary shows that it comes from the Latin *con* (with or together) + *ducere* (to lead) + *or* (one who). A conductor, then, is one who leads or directs other people. A knowledge of the derivation of a word frequently helps us to remember a peculiar spelling, as *Wednesday*, from *Woden*. Finally, there is the meaning of the word. This includes definition and use, or uses, and a list of the various senses a given word may have. The word *stanch*, for example, is a transitive verb, an intransitive verb, a noun, and an adjective; and to know that word is to be able to use it in all four senses.

It is true that only a few rules for spelling English words are really helpful. But those few do help, particularly when the pupil arrives at them for himself *after* studying groups of illustrative words. The addition of the suffix *-ing* to *write, ache, guide, desire, bruise, increase, prepare*, etc., enables us to formulate the rule for dropping final silent *e* before suffixes beginning with a vowel.

By adding *-ed* or *-ing* to *compel, confer, refer, submit, acquit, control*, etc., we learn that monosyllables and words accented on the last syllable, ending in a single consonant preceded by a single vowel, double the final consonant before a suffix beginning with a vowel.

Such words as *deny, comply, query, verify, dusty, muddy, homely, pretty, jolly*, and others ending in *y* preceded by a consonant change *y* to *i* before *-ed, -er, -est, -able*. Thus: *denied, complied, dustier, muddiest, prettiest, verifiable*. But note the forms *denying, complying, studying*.

Final *e* is dropped before an ending beginning with a vowel (as *seize, seizure; conceive, conceivable*), but retained before an ending beginning with a consonant (as *achievement, encouragement*). Exceptions: *judgment, abridgment, argument, lodgment, acknowledgment*. The *e* is also retained when needed to keep the identity of a word (as *dyeing, shoeing, hoeing*), or to keep the soft pronunciation of a *g* or *c* (as *peaceable* and *changeable*). (*G* and *c* before *a, o*, and *u* are pronounced as in *gave* and *cat;* before *e, i*, and *y* they are pronounced as in *gentle* and *cent*.) Most plurals are formed by adding *s* to the singular. But words ending in *s, x, z, ch, sh*, form the plural by adding *es*. Thus: *circuses, taxes, churches*. Singular forms ending in *y* preceded by a consonant form the plural by changing *y* to *i* and adding *es*. Thus: *salaries, factories, remedies, cherries, libraries*.

To avoid confusion between *ei* and *ie*, keep in mind the word *Alice*, in which you have *li* and *ce* to remind you that *i* follows *l* and *e* follows *c*. This will help with words like *believe, relieve, receive, perceive*, etc., but it applies only when the sound is long *e*. Otherwise *ei* is the more usual spelling, as in *deign, vein, rein, freight, height, sleight, foreign, counterfeit, heifer*. The old jingle is "Use *i* before *e* except after *c*, or when it's like *a* as in neighbor or weigh." But remember the exceptions: *financier, seize, weird, either, neither, leisure, inveigle*.

If you are confused about whether to end a word in *-able* or *-ible*, try to think whether there is a noun related to it ending in *-ation*. If a word has a noun ending in *-ation*, the adjective generally also has *a* in its suffix and ends in *-able*. Thus *accuse* has the noun *accusation* and the adjective *accusable;* and we have *limitation, limitable; duration, durable; detestation, detestable*, etc. If there is no noun ending in *-ation*, the adjectives usually end in *-ible*, as *collectible, digestible, repressible*, etc.

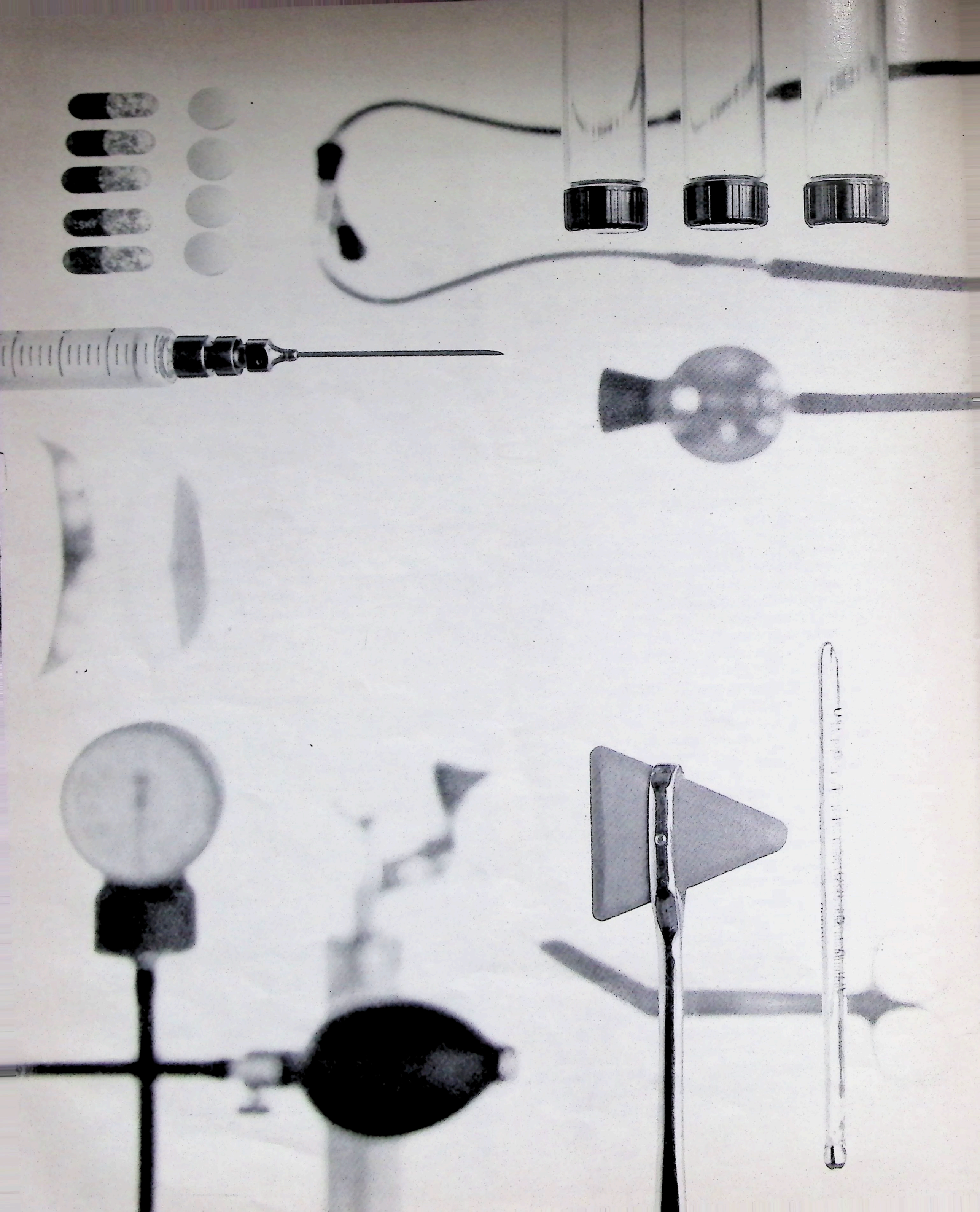
There have been many attempts to introduce simplified spellings. The first was that of Noah Webster, who, in his 'American Dictionary' (published in 1828) dropped the *u* from such words as *favour, honour, mould, colour*, and changed the French-derived *metre, centre, theatre*, etc., to *meter, center, theater*. These simpler spellings have largely taken the place of the others in America, but the English still use the old forms. Twelve spellings adopted by the National Education Association are recognized by the newer dictionaries and are in general use; these are: *program, catalog, decalog, prolog, pedagog, tho, altho, thoro, thoroly, thorofare, thru*, and *thruout*. ◆

Knowledge is, indeed, that which, next to virtue, truly raises one man above another. ADDISON

To be conscious that you are ignorant is a great step to knowledge. DISRAELI

Education is a companion which no misfortune can depress—no crime destroy—no enemy alienate—no despotism enslave. At home, a friend; abroad, an introduction; in solitude, a solace; and in society, an ornament. Without it, what is man? VARLE

The writer does the most who gives his reader the most knowledge, and takes from him the least time. SYDNEY SMITH



MEDICINE

FAMILY DOCTORS AND SPECIALISTS

from the Wisdom of Compton's Pictured Encyclopedia

THE chief work of doctors and surgeons, today as in the past, is caring for the sick. The entire practice of medicine, however, is undergoing great changes at the present time.

There is a trend toward more and more specialization. Greater attention is being paid to the prevention of disease and the rehabilitation of persons who have been injured by disease or accident. There is more emphasis on the health of older people, on chronic illnesses, and on mental health. And an increasing number of people now go to hospitals when they are ill instead of being cared for at home.

The demand for more and better medical service has created a need for more physicians. The United States had in 1955 about 137 licensed physicians for every 100,000 people. This is the most favorable ratio of doctors to population in any country. The majority are general practitioners. About a third are specialists, who limit their practice to one field of medicine. Others teach in medical schools, carry on research, engage in public health work, or serve in the armed forces. To meet all these needs, facilities for medical education are being constantly expanded.

Advances in science and medical knowledge require many specialists. But the backbone of medical care is still the *general practitioner*—often called the "family doctor." In or near centers where specialists are available, the family doctor may send his more complicated or difficult cases to the specialists. In small towns and rural areas, he may be called upon to do anything from minor treatments to handling life-or-death emergencies. He may or may not have the services of a hospital close at hand. But in large towns or small, he has the priceless advantage of knowing his regular patients as *people* and not just as *cases*. He knows their temperaments and family circumstances and how these may affect health and help or hinder in treating illness.

The family doctor is called a general practitioner because he uses all branches of the healing art. He uses medicines of all types. He also works by hand, as when he sets a dislocated shoulder and uses instruments for operations. These "treatments by hand" (as contrasted with treatments by medicine) make up the work of a *surgeon*. In addition, the family doctor pays attention to general care—diet, the state of mind and habits of his patients, and nursing as it may be needed.

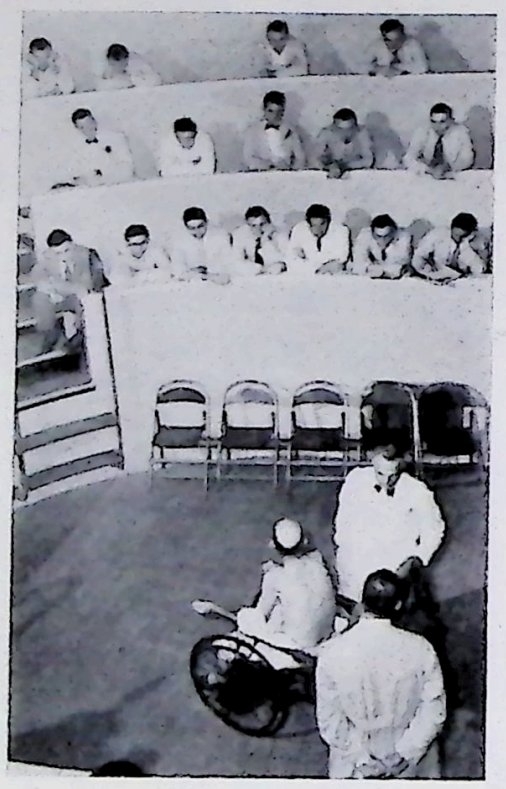
Before the 19th century, knowledge of medicines was largely *empirical* (the result of experience). Doctors knew that certain substances and preparations were helpful in treating disease, but as a rule they did not know why. A few remedies, called *specifics*, had marked value for particular diseases or disorders. Among them were quinine for malaria and digitalis for heart ailments.

During all this time, doctors were limited to empirical medicines because they knew very little about the causes of disease. During the 19th century, however, scientists began making revolutionary advances in this field. As understanding of disease advanced, scientists and doctors developed many specific remedies. Among them were antitoxins and serums for preventing or curing infectious diseases. Medical scientists learned how to obtain and use vitamins for overcoming many deficiency diseases and how to treat glandular disorders with gland extracts and by other means.

These developments created many specialties in the field of medicine. The most general specialty is called *internal medicine*. One of the most important duties of an internist is *diagnosis*. This means accurate identification of what is causing a patient's illness. Painstaking and highly skilled tests are sometimes necessary to establish a diagnosis.

Many internists give treatment after diagnosis. But they may refer difficult cases to specialists in treating the diagnosed cause of illness. Among such specialists are *endocrinologists*, who treat glandular disorders, and *allergists*, who treat disorders caused by the

Pre-medical students explore the mysteries of medicine in the study of the human skeleton, the foundation of medical studies.



Medical school amphitheatres serve as classrooms, giving students a full view of patient under observation.

Doctors measure blood pressure as a routine in diagnosing illness.

An ophthalmoscope is used by the eye specialist for the examination of the retina.

intrusion of a foreign protein, such as pollen, into the human body.

Before the 19th century, surgeons were limited largely to dealing with wounds and injuries, especially those received in war. They had no anesthetics or antiseptics, and so could not undertake lengthy operations. These invaluable aids were developed during the 19th century, and they brought an era of great advance in surgery. Soon the knowledge and skill required for all but the simplest operations not only made surgery a specialty; it created many specialties within the field. The specialist performs the same operation hundreds of times. Thus he develops skills and procedures beyond those of a less practiced man.

The largest group of specialists consists of general surgeons. A general surgeon performs many kinds of operations, but much of his work is within the abdominal region of the body; that is, with the digestive organs—stomach, intestines, appendix, liver, and gall bladder. The general surgeon may also treat the kidneys and the bladder, but this type of work is a specialty in itself, called *urology*.

A general surgeon may often treat injured or diseased bones. But this type of work is also a specialty, called *orthopedics*. Included in it is the exacting work of correcting deformities. Other specialties include surgery of the lungs and chest, the blood vessels and heart, and the nerves and brain. *Plastic* surgeons treat soft tissues, especially of the face, to repair damage caused by accident or to improve appearance. *Oral* surgeons treat diseases and injuries of the mouth, teeth, jaw, and adjoining tissues.

Many specialists combine medicine and surgery in their work. One of the largest groups of this type treats ailments of the ear, nose, and throat.

An important group of specialties is concerned with care of expectant mothers, childbirth, care of infants, and treatment of diseases peculiar to women. The field directly concerned with childbirth is *obstetrics*. The obstetrician begins his work months before the baby is to be born, with care designed to have both the mother and the baby in the best possible health at the time of the birth. For the actual birth he usually places the mother in a hospital. There he has an aseptic delivery room, help from expert obstetrical nurses, anesthetics, and the equipment needed to deal with any abnormal or unexpected difficulty.

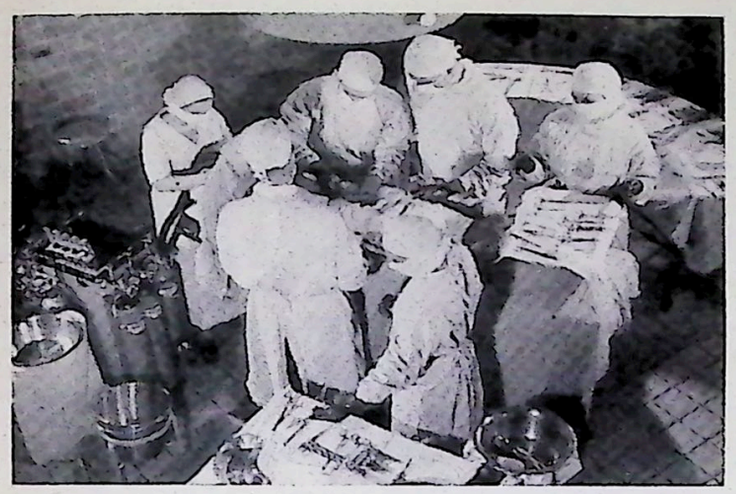
The treatment of conditions peculiar to women is called *gynecology*. The care of infants and young children is called *pediatrics*. More than most other doctors, the pediatrician deals with patients who are well, rather than sick. He prescribes diet, and keeps common infections and digestive upsets from becoming serious. Pediatricians also act increasingly as advisers to mothers in their task of helping the child to develop normally.

The medical specialty that deals with mental illness is *psychiatry*. Psychiatrists have developed helpful or curative procedures for many grave conditions and hope to overcome others. Considerable progress has also been made in dealing with mental troubles (broadly called *neuroses*) which fall short of being insanities.

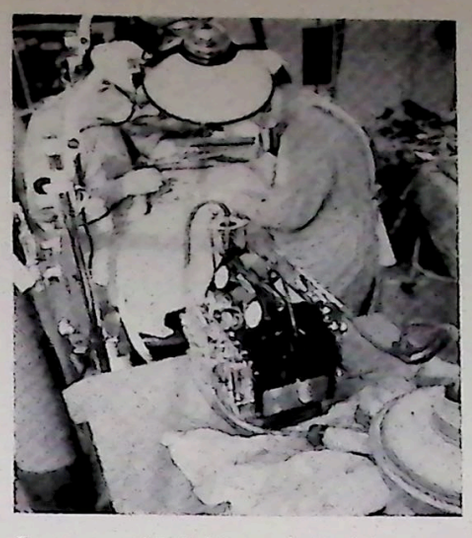
This work recognizes that in many ways mind and body are one. Physical condition can have profound effects upon mentality and character; so likewise can the mental state cause important physical changes. When a person is driven beyond endurance by fears, resentments, or inner conflicts, the body may seek to secure relief for the mind by presenting the symptoms of a disease, without the person realizing what is happening. Doctors must be particularly careful in recognizing such *psychosomatic* ("mind-body") cases. With this in mind, an internist once said in a lecture: "When a patient complains of digestive upset, I always study his job and family as well as his stomach."

Many tests and costly equipment are needed for modern medicine. Few doctors can afford to have all the equipment necessary, even for one branch of practise. Doctors prefer therefore to treat

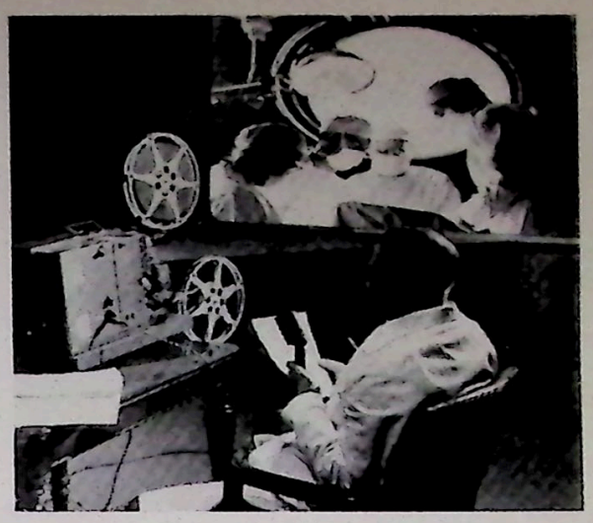
The field of heart surgery is one which has taken immense strides in recent years. Surgeons are shown opening the patient's chest to perform heart surgery.



Surgeons, nurses and anesthetists work as a team in performing a laparotomy—an exploratory operation on the abdomen.

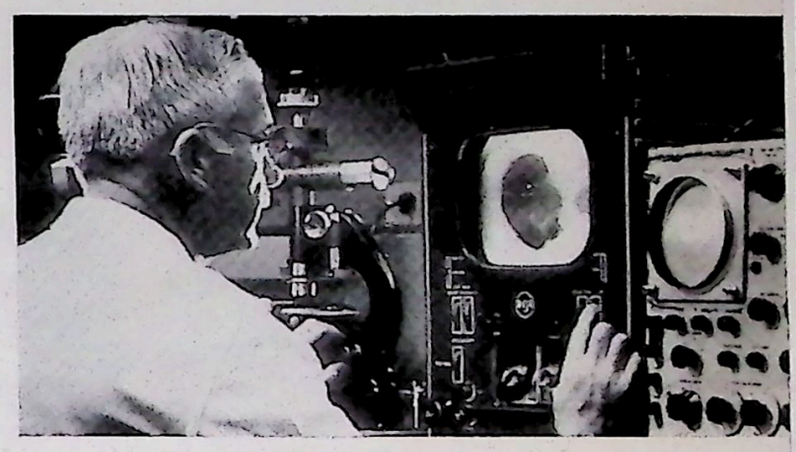


Latest artificial heart machines permit surgery in a "dry-field," supplying the blood with needed oxygen.



Motion pictures of operations are frequently studied by medical lecturers who use the medium of the film for the education of medical students.

Color television cameras are used often to demonstrate surgical techniques.



Researchers use radio isotopes to observe and film activity within a cell.

serious cases in hospitals, where the proper equipment and help are available. Doctors also use public and private laboratories, which make tests for the profession.

Another development which cuts cost while improving service to patients is a coöperative type of clinic. Formerly the word "clinic" meant a division of a hospital or a medical school which gave gree treatment to the poor, both as a duty and to give student doctors an opportunity to practise under supervision by older men. Such free clinics are still maintained by these institutions and also by public health authorities.

Today, however, some clinics are coöperative institutions maintained by a group of doctors to provide equipment and special services for the group. In some of them the doctors share expenses and have their own patients. In others the clinic is in charge of all treatments. After an illness has been diagnosed, the patient is treated by the doctor or doctors who can do the best for him. Patients pay the clinic, and the doctors receive salaries.

Because of the vast range and complexity of modern medicine, many years of training are needed before a student can become a doctor. The modern standard requires four years in a medical school after graduation from college. In college, the student takes courses in biology, physics, chemistry, and zoology. In the first years of medical school he studies human and animal life, learning especially anatomy, physiology, and pathology. In the last two years, he spends a great deal of time in the hospitals that are affiliated with his medical school. Here he observes his teachers at work and gets first-hand acquaintance with diseases, injuries, and treatment. He also attends autopsies to watch the pathologist make detailed studies of bodies immediately after death. These examinations reveal the effects of disease on all the body's tissues and organs.

After graduation from medical school, the young doctor serves a year or more in a hospital as an intern. Here he carries his knowledge into active practise under the close supervision of hospital staff members. At the end of his internship, he is eligible to take the examination for licensure required by the medical licensing authority in his state.

If he wishes to become a specialist, the young doctor usually seeks a hospital appointment as a resident, or house, physician in the department of his choice. For one, two, or three years the young doctor works with patients in his special field, while assisting and learning from his superiors on the hospital staff. He may then spend two years more as an assistant to a practising specialist before he starts his own practise. If he wishes to be certified as a specialist he then presents himself for a detailed examination by the specialty board or organized group of specialists in his field.

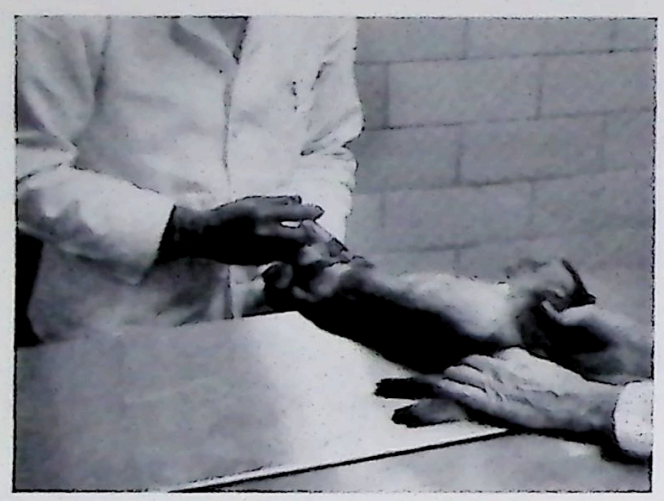
Attempts to treat illness are almost as old as mankind itself. With primitive peoples, however, most illness was thought to be caused by evil spirits or angry gods. Treatment consisted of charms and ceremonies to remove this supernatural influence. Nevertheless, primitive medicine men had considerable knowledge, gained from practical experience, of herbs, diets, midwifery, bonesetting, and crude surgery.

The earliest civilizations also mixed magic and practical help in their medical practise. The ancient Egyptians used prayer to the gods and magic; but records show that as early as 2000 B.C. the Egyptians knew and used many helpful drugs. They splinted fractures in much the same way as is done today. To make a patient unconscious for surgery, they hit him on the head with a mallet. They also described many diseases well enough to be recognized today.

The Jews had sound concepts of hygiene and sanitation, even though their knowledge of infection was limited. The Hindus had many medicines, and their surgical practise included amputation,

Jack R. Magit, M. D., famed anesthesiologist and Medical Director of the Beverly Hills Doctor's Hospital, California, interests himself in new instruments used in the administration of anesthetics for surgical, diagnostic and therapeutic purposes.

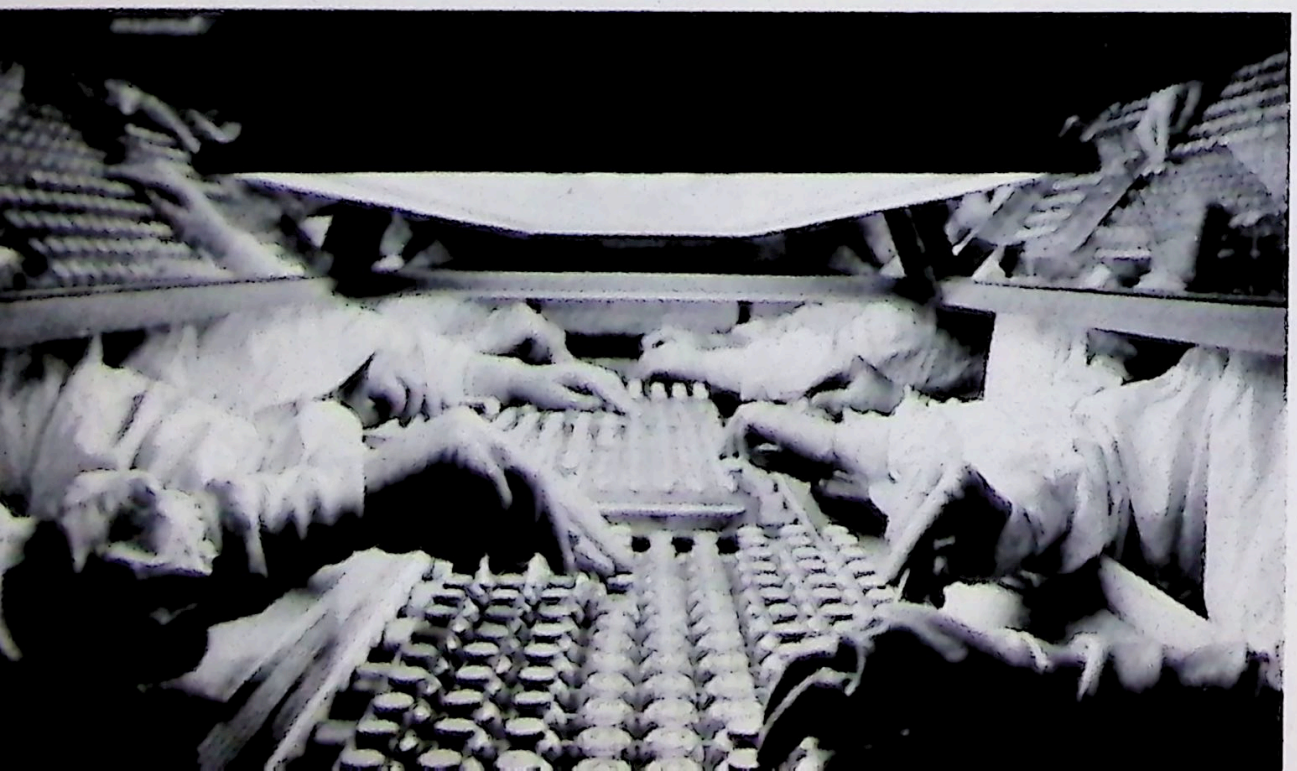
Bacteriological technicians transplanting living organisms.



Virus inoculated into monkeys enables scientists to observe reactions.

Dr. Jonas E. Salk, world-famed medical researcher, rotates test tubes, assuring the even mixture of polio virus.

In the mass production of antibiotics, flexible rubber gloves are worn by workers to ensure the preparation of the drug in a sterile condition.



cauterization, splinting, removal of tumors, and operative childbirth.

The ancient Greeks brought medical treatment to the highest level attained in ancient times. Followers of Aesculapius, the Greek god of medicine, established temples of healing in all the Grecian states. The most famous was at Cos, an island in the Aegean Sea. Here Hippocrates, the Greek physician who is known as the "father of medicine," learned and practised his art 400 years before the birth of Christ.

Hippocrates is still remembered for his careful, detailed observations of various diseases and for the celebrated Hippocratic Oath. According to the oath, the physician places the interest of his patient above all other considerations in his practise. He keeps in strictest confidence all that he observes and learns during his visits to the homes of the sick. He confines his practise to the procedures for which he has been trained, and he pledges himself to teach as well as practise his art. These ethical rules still govern the practise of medicine.

In the 3d century B.C. a great medical center was developed in Alexandria. Here were the first dissections of the human body for teaching purposes. Herophilus recognized that the brain is the central organ of the nervous system, and Erasistratus contributed knowledge of the heart, lungs, and digestive system. Erasistratus also associated the complex workings of a human brain with intelligence. But the Greeks also invented theories which went beyond their proved knowledge. One example was the common belief that the body had four "humors"—blood, black bile, yellow bile, and phlegm. According to this theory disease occurred when the humors got out of balance. The physician's task was to restore the balance.

The early Romans relied for medical advice and care on *medici*, or medical slaves. Later they adopted Greek medicine and relied upon Greek-trained physicians. The best known of these was Galen of Pergamus, born in A.D. 131. Galen was a skillful healer and a persuasive teacher, but many of his theories about physiology and disease were wrong. He recognized that the arteries contained blood instead of air, as the Greeks had taught; but he did not detect the circulation of blood between the arteries and the veins. He believed that life was supported by natural spirits formed in the liver, vital spirits formed in the heart, and animal spirits formed in the brain.

After Galen's time, the desire for progress seemed to die. During the Dark Ages in Europe, the Arabs cherished Greek knowledge and made some additions, but when interest in medical studies was rekindled in Europe Galen still was the great authority.

The first notable advances were contributions to the knowledge of anatomy, made by Leonardo da Vinci (1452–1519) and Andreas Vesalius (1514–64). The dissections and anatomical studies of Vesalius, in particular, corrected some of Galen's errors and inspired other anatomists to new studies.

Up to this time surgery was considered secondary to medicine and was left to barbers and their apprentices. The work consisted largely of bloodletting and in treating cuts and wounds. The "barber-surgeon" of the European town was a well-known figure.

A new impetus was given to surgery by the work of military surgeons in the constant wars of the 16th century. Foremost among them was the Frenchman Ambroise Paré (1517–90). Paré developed skillful, speedy techniques for amputating injured limbs. He also proved that tying severed arteries to stop hemorrhage was better than cauterizing with boiling oil (or, as was sometimes done, with a hot iron). He devised trusses and artificial limbs. Later, as court physician to several French kings, he found time to write books and spread knowledge of his work.

An Englishman, William Harvey (157S–1657), gave modern

physiology its real start in 1628 with proof that the blood circulates continuously through the arteries and veins. Harvey's work was important not only for its revelation of truth but because he employed the scientific method of observation and deduction. He measured the quantity and velocity of the blood's flow and reasoned from these measurements that it was physically impossible for the blood to do anything else than return to the heart through the veins. This mathematical demonstration of biological fact was the foundation of modern scientific medicine.

The Dutch microscopist Anthony van Leeuwenhoek (1632–1723) studied healthy and diseased body tissues under the microscope and first identified disease-bearing parasites, although he did not recognize their function in disease. His contemporary, Thomas Sydenham (1624–89) of England, founded modern epidemiology. He observed the recurrent characteristics of infectious diseases; but he, like Leeuwenhoek, did not identify germs as the cause. John Hunter (1728–93), a Scot who practiced in London in the latter part of the 18th century and became the leading surgeon of his day, also made important discoveries. He described many different diseases but was especially shrewd in his diagnosis and treatment of diseases of the blood vessels. Edward Jenner contributed the first effective means of controlling infectious disease by developing vaccination for smallpox.

In the 19th century, medicine was practiced on a solid foundation of scientific knowledge. Improved, high-powered microscopes opened new possibilities for the study of tissue, and workers such as Matthias Schleiden (1804–81), Theodor Schwann (1810–82), and Rudolf Virchow (1821–1902) established the fact that all tissues are cellular in structure. The science of chemistry provided a new means for studying structures and processes, and knowledge of anatomy and physiology advanced accordingly.

The understanding and treatment of disease were advanced by Louis Pasteur, Robert Koch, and others in the 1870's and 1880's. They proved that infections and infectious diseases were caused by microorganisms, commonly called germs or microbes. This discovery gave scientists the clue they needed for developing remedies for such diseases and for controlling diseases which previously had ravaged entire populations.

By preventing infection following operations, surgery also benefited from these discoveries. The pioneer in this development was the English surgeon Joseph Lister (1827–1912). During the 1880's he developed crude but effective methods which led to the aseptic methods used today.

This development cleared away the last obstacle to the rapid advance of surgery. Earlier, in the 1840's, anesthesia with ether (and later with chloroform) had ended the agony of operations for patients. Surgeons then had time for protracted operations; but they still dreaded entering the abdominal cavity and other bold procedures, through fear of infection. Lister's work overcame this obstacle and surgery then entered upon its modern phase.

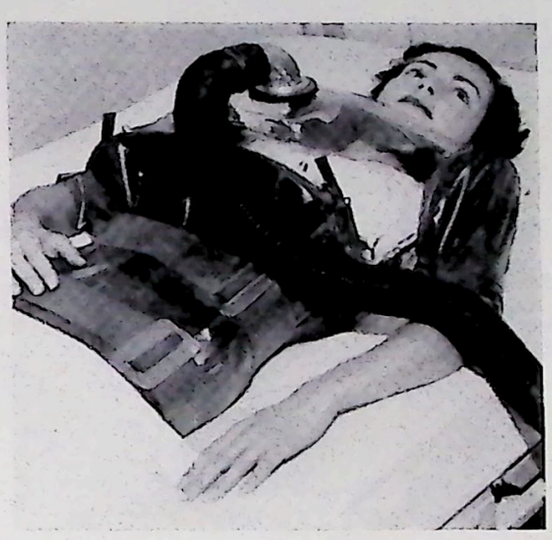
Another milestone of 19th-century progress was the discovery of the X ray by Wilhelm Roentgen of Germany in 1895. This discovery was a powerful aid in diagnosis and also provided a means of treatment for many diseases.

During the 20th century, new physical, chemical, and biological techniques brought tremendous progress in the development of helpful procedures. Especially important were the discovery of the part played by vitamins and glandular secretions and the discovery of powerful germ fighters such as the sulfa drugs, penicillin, and other antibiotics.

These new developments by no means conquered all diseases. Many still remain baffling or incurable. In view of the strides made in scarcely more than a century of sound scientific studies, there is every hope that progress will be made with these problems. ♦

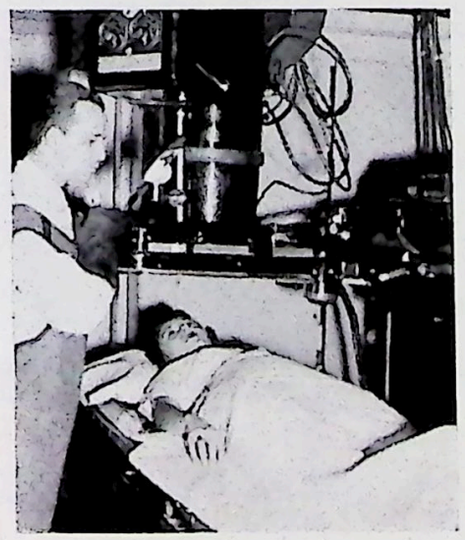
Radiation treatments with cobalt demonstrate the vast contribution of nuclear research to medical science.

Radio isotopes are used in studying and diagnosing thyroid diseases.



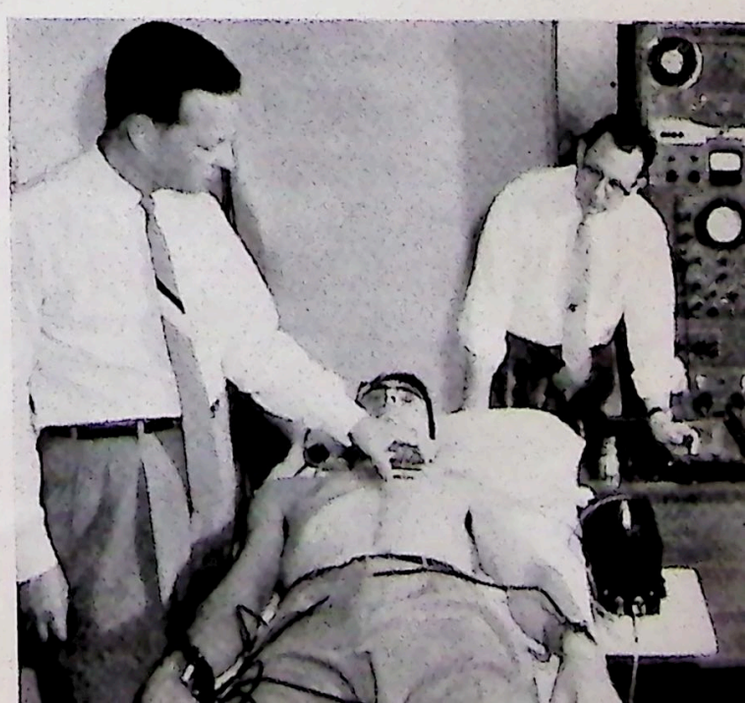
For people with partial use of chest muscles, the portable respirator aids breathing.

X-ray films are vital to the diagnosis of abdominal disorders.



Radiologists X-ray the chest, for the accurate diagnosis of lung diseases.

Low frequency sounds of the heart, inaudible with a stethoscope, are graphically registered by the Electro Stethograph, now widely used in heart research.



HAPPINESS

SADNESS

GRIEF

ANXIETY

ANGER

FEAR

EMOTION ... *the driving*

from the Wisdom of Compton's Pictured Encyclopedia

JOY

LOVE

ANTAGONISM

FRUSTRATION

AGITATION

DREAD

HOSTILITY

SURPRISE

TERROR

force in our lives

TORMENT

SHOCK

DISTRESS

THE character of every individual's life is determined by his emotions. No matter what he may be doing, there is always an undercurrent of emotion—anxiety or fear, pride in his work, friendliness and sympathetic interest in others, or maybe only bitter discontent. Whether he is a happy, lovable person or one who is hostile, resentful, and discouraged depends on his ability to control his emotions. Plainly it is important to understand them.

The word emotion comes from the Latin verb, *emovere*, which means "to move." Because an emotion *moves* us to do the things we do, some psychologists have compared it to the mainspring of a watch. Just as the watch would be motionless without its mainspring, so we would be listless and accomplish little or nothing if there were no emotions to motivate us.

This does not mean that emotions are our only source of motivation. We are, of course, motivated by hunger, thirst, and other conditions aroused by bodily needs. The man who has gone for a long time without food becomes hungry. He begins to think about food. If he is asleep he may dream about it. If he is in a group, his conversation will turn toward food. He may become aware of odors drifting toward him from cooking food. Eventually he will bestir himself. If he does not have food at hand or money to buy it, he may do highly unpleasant work to get a meal.

Similarly a person is motivated by love for his child. He works to provide a good home for the child and to pave the way for the child's future happiness. He may dream, talk, and think about his child and the task before him as much as he may dream, talk, or think about food when he is hungry.

Emotions motivate us to accomplish long-range goals such as providing for our loved ones. They also have a protective or preventive function. Suppose that a creeping baby comes in contact with a hot radiator and burns his hand. The pain motivates him to withdraw his hand and crawl away from the pain-producing object. This avoidance of pain is a physiological motive. If the baby were dependent upon this avoidance-of-pain motive alone, he would continue to get hurt. The painful stimulation, however, arouses an emotion of fear. The baby becomes afraid of the object which causes pain. Fear causes him to avoid the radiator, and he does not get hurt. In a like manner, the child learns to avoid many other potentially dangerous and unpleasant situations.

Not all fears are instilled by actual contact with painful objects. In one experiment a child was made to fear a rabbit, even though the rabbit was harmless and did nothing to frighten him. The experimenter knew that a loud noise arouses fear in most infants. He struck an iron bar behind the infant and produced an immediate startled response, as well as evidences of fear. The rabbit aroused no such reaction. The child reached for it, stroked it, and tried to get closer to it. Then, while the rabbit was still there, the loud noise was made. Next time the rabbit was presented the child hesitated to get close to it. After a few repetitions of the rabbit-noise combinations, the infant was just as much afraid of the rabbit as he was of the loud noise. *A conditioned-fear reaction* to the rabbit had developed.

In a somewhat similar manner, the child may learn to fear dogs which bark loudly, jump up upon him, or push him over. What is even more interesting and significant, however, is the fact that once a fear has developed in the way described, it may transfer to other similar objects and situations. The infant who became afraid of a rabbit was thereafter also afraid of white rats, a fur muff, and even a Santa Claus mask. Likewise, the child frightened by one dog may fear all dogs.

Fears also develop through observing the behavior of other people. A child who sees that its companion is afraid of dogs also becomes afraid. The things people tell us develop fears and other emotional reactions. Our fear of running across the street does not, in most instances, come from having been hit by a car. We may not even

have seen that others are afraid. It usually comes from being told by our parents and teachers what may happen to us if we run across the street without looking.

In thinking of emotion from the standpoint of protection from injury, we have emphasized its negative function. Fear, since it causes us to withdraw from situations rather than to reach out toward new experiences, is clearly a negative emotion. Other emotions with negative aspects are anger, hate, loneliness, discouragement, shame, guilt, boredom, and feelings of inferiority. These are learned in various ways, but largely through our contacts with other people and through what we read and hear.

Some people are so negatively motivated that, in a manner suggestive of the snail, they withdraw into their "shells." When this sort of withdrawal is extreme we say that the person is *introverted*, or an *introvert*. Such people are likely to be lonely, with feelings of inferiority. They contrast markedly with the *extrovert* whose emotional undercurrents lead him to reach out and associate with others. We would say that the latter is positively motivated.

Although negative emotions, and especially those with protective functions, have a place in everyday life, the positive emotions are much more important. Among them are enjoyment of activity, friendliness, sympathy, love and affection, courage, self-respect, and esthetic appreciation. The emotionally mature person likes people and feels that they like him. Often he is more concerned with their happiness than with his own. He is tolerant of others. He is able to laugh at himself. He gets out among people and enjoys life.

How can we develop our positive emotions in such a way as to improve our own happiness and the happiness of those who must associate with us? Although it is possible to cultivate these desirable emotions and to weaken or eliminate any hold which negative emotions may have upon us, the task is not easy.

One reason for the difficulty is that we are often not aware of our own emotional undercurrents. Sometimes it is very difficult to trace the origin of emotionally colored attitudes. We may be afraid of dogs, or perhaps only vaguely uneasy in their presence, yet not remember the dog which frightened us during early childhood, the experience of seeing another child frightened, or being told that dogs may bite. A psychologist found that he disliked a certain man but without knowing why. Later he realized that the man had the same name as a villain in a story that he had read years earlier. Many such instances can be cited to show that emotions may influence us without our knowing why.

Quite often our emotions seem very vague indeed. We are worried, anxious, or unhappy without knowing why. That something of which we are unaware can control our thoughts and our actions is difficult to grasp.

Thus, in order to improve our emotional life, we must know what our emotions are and how they are controlling us. Sometimes we cannot discover these things for ourselves and must seek counsel from those who are experienced in discovering hidden motivation.

A positive attitude toward those around us is conducive to development of emotional maturity. If we "lose ourselves" in others, in interesting work or hobbies, or in worth-while causes, we develop our positive emotions at the expense of the negative ones.

It is also important to have good health. The person who is always irritable and depressed may not be getting enough food of the right kind, the right amount of exercise to keep his body fit, or the necessary amount of sleep.

One can sometimes improve his emotional life by changing the situations which disturb him. If he is lonely, he should make an effort to get out and mix with people. If he is irritated because the owner of a nearby vacant lot leaves it cluttered with trash, he may put pressure on the owner to clear it up. It is often easier to change situations in these ways than to change our emotional habits.

When we are emotionally aroused we have pleasant, unpleasant, exciting, depressing, or other feelings. There are also effects in our inner organs, such as the heart, stomach, liver, nervous system, and spleen. A machine called a polygraph can register the physical reactions to an emotion such as fright.

Everyone is familiar with the physical signs of emotion. The person in a sharp attack of anxiety breaks out into perspiration. The angry person reddens and then turns pale. The frightened child trembles. At the same time the blood pressure increases; the pulse beats faster; breathing is more rapid and disordered; the normal processes of digestion are halted; even the supply of blood has been directed away from the stomach and toward the trunk muscles and into the arms and legs. Thus a man who faces sudden danger can perform feats of speed and strength completely impossible under normal conditions.

An area in the brain called the *hypothalamus* is believed to be responsible for preparing the body for emergency action. The popular belief that the adrenal glands perform this function by pouring adrenalin into the blood stream has not been proved.

Most of the time we are not in emergencies, and such excess energy, having no normal outlet, may make us tense, nervous, irritable, and unhappy. This is true when we are afraid without need of being so, when we are anxious without cause, when we are consumed with hatred or resentment, or when we are continually jealous. Some psychiatrists claim that people in whom emotional reactions are prolonged tend to develop high blood pressure, ulcers, and other physical disorders. *Psychosomatic medicine* is concerned with bodily ills due to chronic emotional disturbances.

The control of our emotional life is worth careful thought. To be mature emotionally, to foster the positive rather than the negative emotions, is not only conducive to good bodily health but also to a happy life. Emotional maturity has been achieved by happy, friendly, and courageous people for whom life is a great privilege. ◆

All loving emotions, like plants, shoot up most rapidly in the tempestuous atmosphere of life. RICHTER

Ride your emotions as the shallop rides the waves; don't get upset among them. There are people who enjoy getting swamped emotionally just as, incredibly, there are people who enjoy getting drunk. MARY AUSTIN

By starving emotions we become humorless, rigid and stereotyped; by repressing them we become literal, reformatory and holier-than-thou; encouraged, they perfume life; discouraged, they poison it. DR. JOSEPH COLLINS

The taste for emotion may become a dangerous taste; we should be very cautious how we attempt to squeeze out of human life more ecstasy and paroxysm than it can well afford. SYDNEY SMITH

Anger is momentary madness, so control your passion or it will control you. HORACE

Nothing is more wretched than the mind of a man conscious of guilt. PLAUTUS

Let us moderate our sorrows. The grief of a man should not exceed proper bounds, but be in proportion to the blow he has received. JUVENAL

A man of courage is also full of faith. CICERO

Emotion has no value in our system save as it is connected with right conduct. It is the bud, not the flower, and is of no value until it expands into the flower. Every religious sentiment, every act of devotion which does not produce a corresponding elevation of life, is worse than useless; it is absolutely pernicious, because it ministers to self-deception, and tends to lower the tone of personal morals. WILLIAM MURRAY

FIGURES OF SPEECH

from the Wisdom of Compton's Pictured Encyclopedia

WHEN you say that the athlete "ran like lightning," or someone who talks too much is a "windbag," or you are "dying with curiosity," you are using figures of speech. Such terms and phrases make your descriptions more vivid than literal expressions could do. Another name for figure of speech is *trope*, Greek for "turning"—a turning of words from their usual meaning or order for the purpose of clearness, emphasis, or beauty.

Two of the most familiar figures of speech are the *simile* and the *metaphor*. A simile compares two entirely different objects, expressed by the use of such words as *like*, *as*, and *so*. William Wordsworth used a beautiful simile when he said of his fellow poet John Milton: "Thy soul was like a star and dwelt apart." This gives a vivid impression of Milton's loftiness of spirit and his love of solitude.

In a metaphor, the comparison is implied rather than expressed. Here the connecting word *like*, *as*, or *so* is not used. We simply say that one object *is* another—for example, "His head is a sieve." William Shakespeare used a metaphor when he said,

All the world's a stage,
And all the men and women merely players.

Metaphors are more forceful than similes, but they must be used carefully. Otherwise we run the risk of becoming involved in *mixed metaphors*. Here the figurative language, instead of going on with the picture which the comparison calls up, leads into an entirely different and ridiculous idea—for example, "The pale hand of death stalked into our midst."

Allegory is actually a sustained type of metaphor. In using it a writer makes imaginary beings and events stand for real ones or for philosophical ideas. Famous examples are Bunyan's 'Pilgrim's Progress' and Spenser's 'Faerie Queene'.

Another figure that uses comparison is *personification*—giving human characteristics to an inanimate object. Thus the Irish poet "Æ" wrote: "Dusk wraps the village in its dim caress," and Byron said "Lake Leman woos me with its crystal face."

When we exaggerate to produce a vivid impression, we use *hyperbole*. This figure is often used unconsciously in everyday speech. We say we have not seen a friend "for ages" or that an unhappy person wept "buckets of tears." Hyperbole is a chief characteristic in American humor. Washington Irving used it effectively in picturing Ichabod Crane with "hands that dangled a mile out of his sleeves" and "feet that might have served for shovels."

Understatement, the opposite of exaggeration, is also used for special effect—to make a statement more emphatic by deliberately weakening or minimizing it. The commonest form, technically called *litotes*, is the use of the negative to emphasize a positive statement—for example, "That's not a bad idea" or "He is nobody's fool." Other forms of understatement, or *meiosis*, are frequent in colloquial speech. Examples are "the late unpleasantness" (a recent war) and "crossing the pond" (crossing the Atlantic Ocean). Understatement is one of the most characteristic features of British humor and of American humorists such as Mark Twain.

There are many other figures of speech (also called figures of rhetoric) used for various rhetorical effects. These include *antithesis*, *irony*, *euphemism*, *epigram*, *metonymy*, *synecdoche*, *climax*, and *onomatopoeia*.

Figures of etymology are contractions or elisions, such as *ne'er* for *never* and *'twill* for *it will*. Figures of syntax are deviations from normal sentence structure. These include the use of words out of their regular order, as "We climbed a mountain high," and the omission of words to gain force, as, for example, "On guard" for "Be on your guard." ♦

A superior man is modest in his speech, but exceeds in his actions. CONFUCIUS

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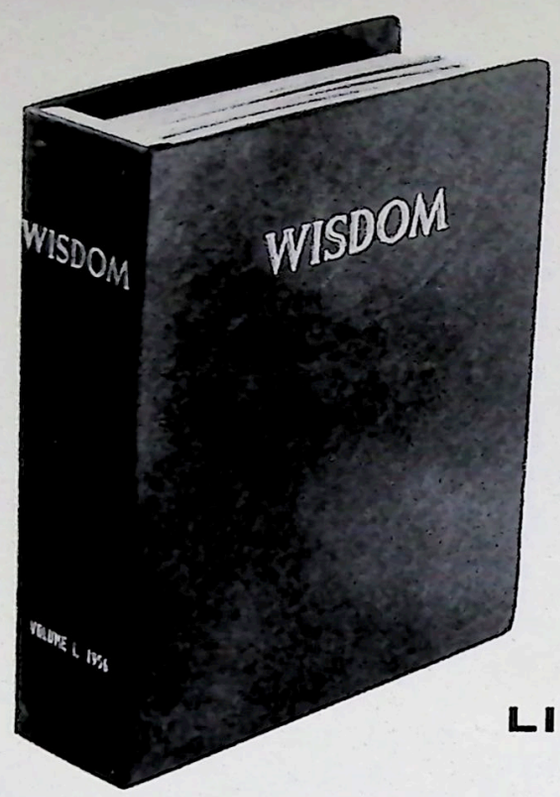

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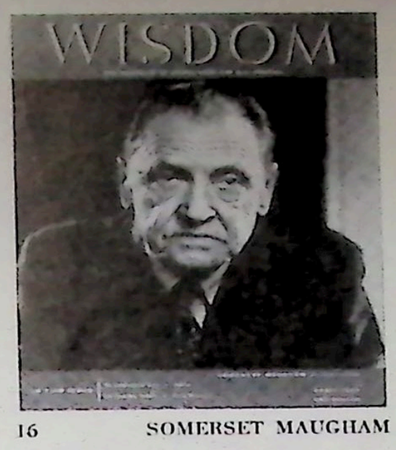

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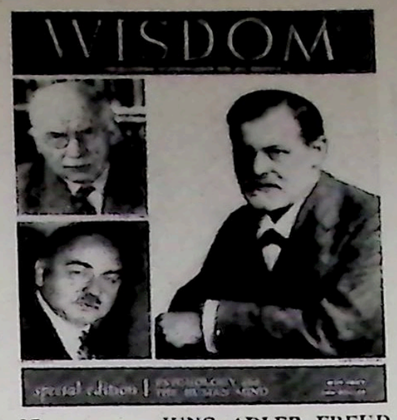

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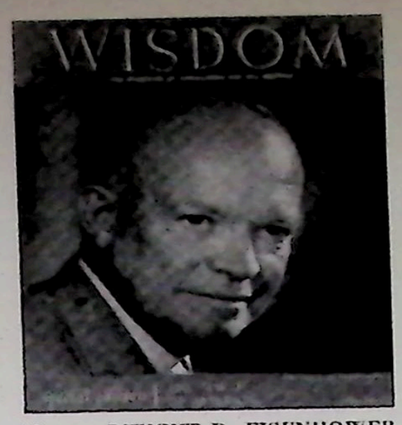

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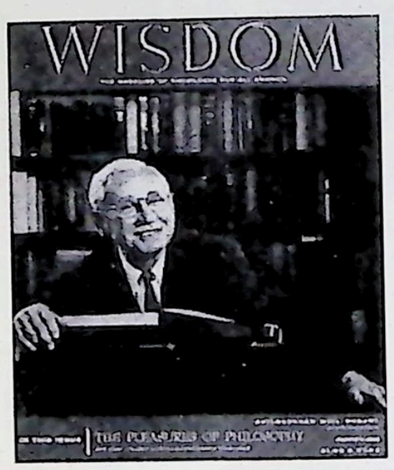

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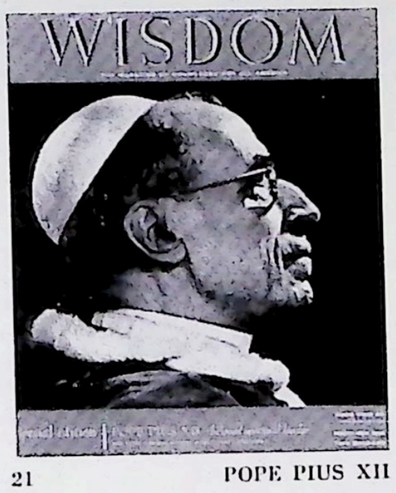

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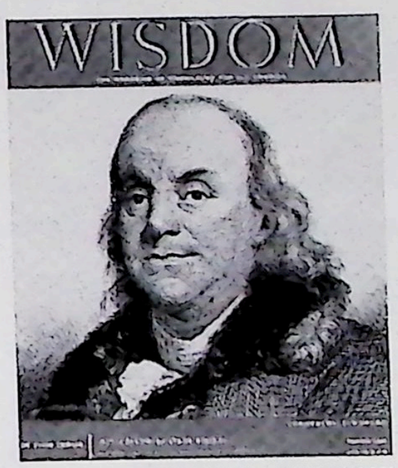

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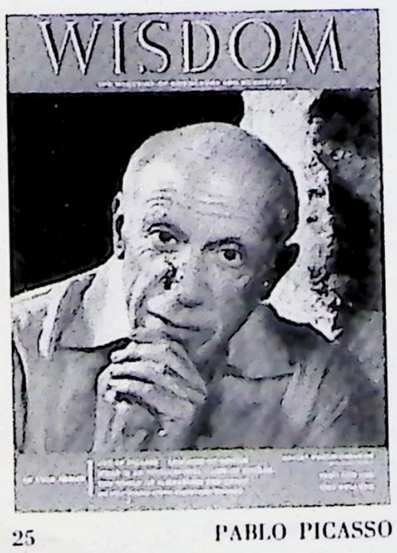

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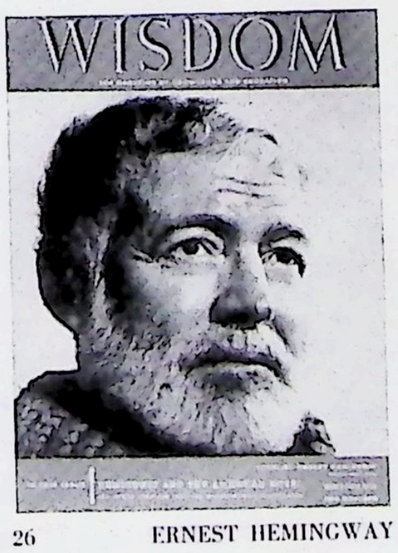

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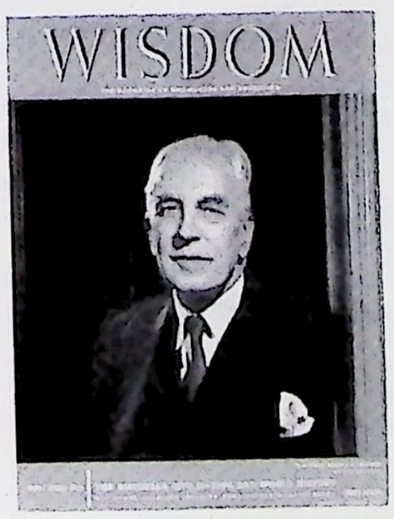

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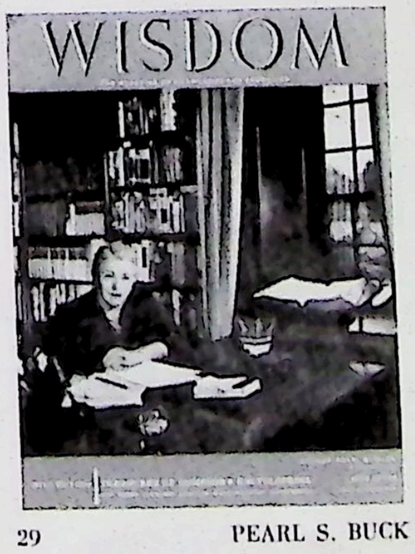

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